2000 Salmon Spawning Ground Surveys

Pacific Salmon Treaty Program
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By:

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ABSTRACT

The numbers of spring and summer chinook salmon *Oncorhynchus tshawytscha* returning to waters within the State of Idaho in 2000 were indexed by counting chinook salmon redds in selected areas and by operating weirs. Surveys of spawner carcasses were also conducted while counting salmon redds. The purposes of the carcass surveys were to estimate length, age and sex composition of annual escapements, and to check for marks and tags. Adults intercepted at weirs were also sexed, measured, and checked for marks and tags.

Counts of spring chinook salmon redds in 2000 significantly increased from the 1999 numbers through most of the Salmon River drainage. Summer chinook salmon redds also increased. The total number of chinook salmon redds counted in the Salmon River Drainage in 2000 increased to 1,533. The previous five year average is 700 redds counted during 1995-1999. The 2000 count was low compared to the historical ten-year average of 6,891 redds counted during 1957-1966.

Numbers of spring chinook redds counted in the Clearwater River drainage increased in 2000 compared to the 1999 count of 24. The total number of redds counted in 2000 was 296, compared to a five-year average of 128 counted during 1995-1999.

There were 119 (10 natural, 109 hatchery) adult sockeye salmon *O. nerka* that returned to the Redfish Lake Creek weir in 2000. It is a large increase from the zero returns of 1999. An additional 123 hatchery sockeye returned to the Sawtooth Fish Hatchery weir.

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INTRODUCTION

Each year chinook salmon *Oncorhynchus tshawytscha* and sockeye salmon *O. nerka* return from the ocean to spawn in Idaho. Snake River spring and summer chinook were listed as Threatened in 1992, and sockeye salmon were listed as Endangered in 1991 under the Endangered Species Act (ESA). Both have declined dramatically in recent years. The ESA listing pertains to native salmon populations in the Salmon River and Snake River tributaries in Oregon and Washington; the reintroduced populations in the Clearwater River are not listed.

Effective management of anadromous salmon requires annual monitoring of the escapement into spawning areas. In Idaho it is especially difficult to enumerate all salmon returning to each of the spawning areas due to the vast geographic area used by these fish, and limited access to the spawning habitat. Because quantifying total spawner escapement to each tributary was impractical, the Idaho Department of Fish and Game (Department) developed a program to index annual spawning escapements by enumerating salmon redds in selected areas. The areas surveyed represent a large portion of available chinook salmon spawning habitat and the number of redds counted in these areas provides an index of the annual spawning escapement. Time series trends in escapement and production can be assessed from the redd count data. Spawner carcass surveys are conducted while making redd counts to estimate length, age, and sex composition, and to check for marks and tags. Prior to the 1993 release, the adipose fin-clip indicated the fish was marked with a coded-wire-tag (CWT). Since 1993, all Idaho hatchery chinook salmon have had an external mark, regardless of whether they have a CWT.

Chinook salmon redd counts in Idaho were made as early as 1947 (Zimmer 1950, Schoning 1953). However, consistent trend counts date back to 1957. Since 1957, the redd count program was expanded to include additional spawning areas to support expanded monitoring activities and management requirements.

Hassemer (1993a) summarized and critically reviewed the Idaho redd count data for the years 1957-1992. Subsequent annual reports include Elms-Cockrum (1996, 1997, 1998, 1999, 2001), Elms-Cockrum, et al. (1995) and Riley and Elms-Cockrum (1995). In this report, the 2000 redd counts, weir counts, and data on length, age, and sex are made available for trend analysis, management and research use.

OBJECTIVES

The objectives of the spawning ground surveys are to monitor chinook and sockeye salmon spawning escapements in trend areas and to determine sex and age composition of selected runs.

METHODS

Chinook Salmon

Areas where chinook salmon redds are counted have been established on streams in the Salmon River and Clearwater River drainages of Idaho. The purpose of counting redds is to provide an index of annual spawning escapement and identify general tends in spawning escapements. Redd counts are reported "trend areas", which are important production areas for various stocks and represent a large portion of available spawning habitat. A trend area may be divided into a number of separate transects, each of which is counted. Trend area and transect boundaries generally have remained constant from year to year. Count methods used, and trend area boundary changes made from 1957-1992 are described by Hassemer (1993a).

The Department has developed and implemented standardized procedures for counting chinook salmon redds (Hassemer 1993b). Single peak-count surveys are made over each trend area each year. The surveys are timed to coincide with the period of maximum spawning activity on a particular stream, and each transect is therefore assigned a target count-time window based on historic observations. Redd count observations are made depending on the best visual technique for a particular trend area. Techniques include low-flying fixed-wing aircraft, helicopter, or ground surveys conducted on foot. The consistency and accuracy of redd counts can be maintained over time by following these standard procedures, and variability or bias caused by observer changes and hydrologic events can be minimized.

Chinook salmon redd count trend areas are classified as either wild (not influenced by hatchery-reared fish), natural, or hatchery-influenced. The Salmon River drainage contains five wild spring chinook and five wild summer chinook salmon trend areas. A hatchery-influenced trend generally indicates a consistent and continuing presence of hatchery juveniles and adults in the stream. The Clearwater River drainage contains non-endemic, reintroduced spring chinook salmon populations. In the Clearwater River drainage, the Selway drainage is classified as natural, and the Lochsa and South Fork Clearwater drainages are classified as hatchery-influenced.

In 1985, additional redd count transects were established in the Salmon River drainage, and categorized as nontraditional trend areas. Data from these transects are excluded from the historic trend area data. Counts from these areas will be used for comparisons in future years. The number of nontraditional trend areas may change in the future as dictated by management and research requirements.

The sex ratio and length-frequency distribution of returning adults are monitored, and marks and tags are recorded, by spawner carcass surveys and weir operations on selected streams. Carcass length-frequency information is used to estimate the age composition of the run. Marked fish are noted in the carcass surveys and electronically scanned for a CWT. When marked fish cannot be scanned on-site, the snouts of all adipose fin-clipped salmon are collected for laboratory processing. Returning adults intercepted at hatchery weirs are also sexed, measured, and checked for marks and tags. These weirs are located on the South Fork Salmon River, East Fork Salmon River, Pahsimeroi River, and the upper Salmon River (Sawtooth Hatchery) in the Salmon River drainage, as well as on Red River, Walton Creek (Powell Facility), and Crooked River in the Clearwater River drainage.

Sockeye Salmon

In response to the critical status of the Snake River sockeye salmon, a weir was installed on Redfish Lake Creek in 1991, and all returning sockeye salmon were trapped (1991-2000) for development of a captive brood stock program. Hassemer (1993a) reviews sockeye redd counts made before the species was listed. For further information on the captive brood stock program, refer to Pravacek and Kline (1998).

RESULTS

Salmon River Drainage

Counts of spring chinook salmon redds increased in 2000 as compared to the 1999 counts. Summer chinook redd counts also increased compared to 1999. The total number of spring and summer chinook salmon redds counted in 2000 for traditional, classified trend areas was 1,533, compared to 518 redds in 1999. The 2000 count is a 119% increase from the previous five-year (1995-1999) average of 700. The 2000 count is 22% of the 1957-1966 average of 6,891 (Tables 1-4; Figure 1).

The number of spring chinook salmon redds counted in wild trend areas in 2000 was higher than in 1999. The 224 redds counted were an increase of 57% of the 1995-1999 average of 143 (Table 2; Figure 2). The 2000 count is 14% of the 1957-1966 average of 1,576 (Table 2, Figure 2). Spring chinook redd counts in natural and hatchery-influenced trend areas combined increased 250% from the 1995-1999 average of 78 (Table 1, Figure 2), with 273 redds being counted. The 2000 count is 13% of the 1957-1966 average of 2,125 (Table 1, Figure 1). There were not any traditional, trend surveys in 2000 where zero redds were observed in the spring chinook trend areas (Table 1, Table 2).

The count of 445 summer chinook redds in wild trend areas in 2000 increased by 268% from the 1995-1999 average of 121 redds. The 2000 count is 29% of the 1957-1966 average of 1,544 (Tables 3, Figure 3). Counts in natural and hatchery-influenced summer chinook areas combined (591 redds) were a 65% increase from the 1995-1999 average count of 358 (Tables 3 and 4; Figure 3). The 2000 count is 36% of the 1957-1966 average of 1,646 (Tables 4, Figure 3).

A total of 13,162 spring and summer chinook salmon (hatchery and naturally produced) were trapped at hatchery weirs in the Salmon River drainage (Sawtooth, South Fork, Pahsimeroi and Rapid River) where salmon are passed upstream to spawn naturally (Table 5). East Fork Trap was not operated in 2000 for spring chinook adults. There were 1,849 fish released upstream of weirs.

There were 88 redds counted in 19 nontraditional trend areas (Table 6). No redds were observed in Alturas Lake Creek, Pole Creek, and Sand Creek (East Fork South Fork Salmon River).

Redd counts in unclassified spring/summer chinook spawning areas remained at historic low levels (Table 7). The 2000 count of 10 redds in the three trend areas increased from the 1999 count of 4. The five-year (1995-1999) average is 8. The aerial surveys of the trend areas for 1962 counted 126 redds.

Redd counts conducted for purposes other than Department standard surveys in the Salmon drainage are identified in Table 12.

Length, age and sex composition data are included in Appendix A for spring and summer chinook salmon trapped at the following hatchery weirs: Sawtooth (Salmon River), South Fork Salmon River, Rapid River (Little Salmon River), and Pahsimeroi River.

Table 1. Numbers of spring chinook salmon redds counted in Salmon River drainage natural (Lemhi River and Upper Valley Creek) and hatchery-influenced trend areas, 1957 -2000. NC = no count.

YEAR	ALTURAS LAKE CREEK[a]	LEMHI RIVER	UPPER EAST FORK[b]	UPPER SALMON RIVER	UPPER VALLEY CREEK	UPPER YANKEE FORK	TOTALS	FIVE YEAR AVERAGE
2000	8	85	27	146	2	5	273	
1999	1	35	23	25	4	0	88	
1998	0	40	33	47	28	4	152	
1997	0	50	3	26	4	0	83	
1996	1	29	5	19	2	0	56	
1995	0	5	1	5	0	0	11	
1994	0	7	3	21	0	0	31	60
1993	6	23	21	65	7	0	122	
1992	2	15	10	51	1	1	80	
1991	3	55	21	83	2	0	164	
1990	0	80	NC	97	3	3	183	
1989	7	32	NC	102	23	7	171	243
1988	1	179	NC	146	12	1	339	
1987	9	155	NC	162	31	0	357	
1986	14	157	NC	134	13	15	333	
1985	7	93	NC	120	1	5	226	
1984	3	35	NC	71	6	NC	115	253
1983	27	46	121	161	8	0	363	
1982	9	149	28	42	1	0	229	
1981	4	115	76	404	2	4	605	
1980	7	25	6	47	6	0	91	
1979	29	146	57	205	25	18	480	1264
1978	303	703	841	1707	141	33	3728	
1977	85	443	168	698	18	6	1418	
1976	16	227	75	378	NC	40	736	
1975	60	365	348	509	189	60	1531	
1974	42	237	346	338	127	54	1144	1482
1973	153	433	665	411	125	104	1891	
1972	143	473	448	748	182	115	2109	
1971	50	392	370	619	89	57	1577	
1970	68	344	468	432	202	67	1581	
1969	41	328	174	313	35	53	944	1905
1968	110	572	622	637	330	234	2505	
1967	74	786	614	943	253	250	2920	
1966	119	738	511	581	219	112	2280	
1965	101	433	138	472	204	77	1425	
1964	80	1038	405	706	199	146	2574	2184
1963	86	364	646	638	141	128	2003	
1962	138	1309	334	638	157	60	2636	
1961	30	1720	618	723	227	192	3510	
1960	33	1262	122	579	87	43	2126	
1959	18	468	75	486	23	10	1080	2067
1958	96	555	141	469	63	38	1362	
1957	110	719	61	1101	219	47	2257	

a Influenced by trapping at Sawtooth Hatchery site beginning 1981.
b Influenced by trapping at East Fork Weir beginning 1984.

Table 2. Numbers of spring chinook salmon redds counted in Salmon River drainage wild trend areas, 1957-2000. NC = no count.

YEAR	BEAR VALLEY CREEK	ELK CREEK	MARSH CREEK DRAINAGE	SULPHUR CREEK	UPPER BIG CREEK	TOTAL	FIVE YEAR AVERAGE
2000	69	103	36	3	13	224	
1999	33	10	0	0	10	53	
1998	102	105	90	47	15	359	
1997	38	86	62	15	33	234	
1996	15	17	10	13	1	56	
1995	9	0	0	0	2	11	
1994	10	8	5	0	3	26	175
1993	148	242	120	25	56	591	
1992	41	57	65	5	22	190	
1991	47	54	40	26	13	180	
1990	62	42	57	22	20	203	
1989	15	35	44	2	30	126	386
1988	283	330	217	41	101	972	
1987	102	149	150	11	36	448	
1986	74	55	101	65	67	362	
1985	134	28	108	10	70	350	
1984	55	27	60	0	42	184	231
1983	56	38	33	8	27	162	
1982	39	9	40	3	7	98	
1981	60	23	63	7	22	175	
1980	15	8	9	2	4[a]	38	
1979	69	49	47	15	15	195	311
1978	184	208	270	64	95	821	
1977	129	86	98	5	9	327	
1976	76	61	48	14	22	221	
1975	215	169	201	50	77	712	
1974	130	108	210	30	28	506	754
1973	387	375	518	78	96	1454	
1972	221	212	312	71	60	876	
1971	108	173	281	58	32	652	
1970	334	302	456	93	68	1253	
1969	356	349	222	138	65	1130	1301
1968	574	483	466	142	90	1755	
1967	445	420	650	134	67	1716	
1966	534	525	406	142	123	1730	
1965	301	203	404	32	73	1013	
1964	576	425	709	49	51	1810	1576
1963	460	654	372	140	148	1774	
1962	484	426	341	78	223	1552	
1961	675	581	526	121	377	2280	
1960	386	346	299	39	155	1225	
1959	381	458	88	41	88	1056	1575
1958	312	359	262	131	129	1193	
1957	661	398	458	381	225	2123	

[a] Corrected from NC in Hassemer (1993a).

Table 3. Numbers of summer chinook salmon redds counted in Salmon River drainage wild trend areas, 1957-2000. NC = no count.

YEAR	LOON CREEK	SECESH RIVER LAKE CR.	LOWER SALMON RIVER	LOWER VALLEY CREEK	LOWER EAST FORK	TOTAL	FIVE YEAR AVERAGE
2000	10	320	80[d]	3	32	445	
1999	6	38	23	3	7	77	
1998	42	89	29	9	19	188	
1997	22	131	48	8	5	214	
1996	1	67	16	1	5	90	
1995	0/NC[a]	28	6/NC[b]	0	4	38	
1994	1	38	9	9	5	62	130
1993	31	130	48	16	41	266	
1992	22	125	26	6	16	195	
1991	16	112	68	3	23	222	
1990	NC	55	52	9	19	135	
1989	16	78	77	26	51	248	300
1988	5	155	150	33	85	428	
1987	23	121	200	59	62	465	
1986	21	115	104	16	41	297	
1985	28	105	82	1	9	225	
1984	4	xx[c]	51	15	7	77	205
1983	7	98	111	28	27	271	
1982	23	65	39	8	19	154	
1981	30	53	75	17	43	218	
1980	9	20	11	4	0	44	
1979	NC	20	NC	15	33	68	282
1978	29	91	359	219	NC	698	
1977	62	27	94	63	136	382	
1976	31	17	44	43	39	174	
1975	32	10	45	80	38	205	
1974	47	21	40	45	49	202	402
1973	78	62	224	77	138	579	
1972	150	87	412	39	161	849	
1971	79	80	220	147	149	675	
1970	43	63	150	41	123	420	
1969	110	104	120	22	138	494	657
1968	135	58	223	63	235	714	
1967	164	140	365	79	234	982	
1966	49	140	390	184	216	979	
1965	166	134	201	57	131	689	
1964	361	181	415	71	306	1334	1030
1963	261	163	195	50	265	934	
1962	157	281	467	115	195	1215	
1961	131	191	356	158	559	1395	
1960	334	510	811	137	403	2195	
1959	123	240	352	70	240	1025	2058
1958	193	355	460	47	345	1400	
1957	425	328	2533	331	656	4273	

[a] No count for WS-6, from Cabin Creek to Canyon at Falconberry.
[b] No count for NS-22-24, Salmon River, from Lemhi River upstream to U.S. 93 Bridge (upstream of Challis).
[c] "xx" = count not comparable to other years.
[d] No count for NS-24, Salmon River from Lemhi River upstream to Pahsimeroi River.

Table 4. Numbers of summer chinook salmon redds counted in Salmon River drainage natural (Johnson Creek) and hatchery-influenced (South Fork Salmon River) trend areas, 1957-2000.

YEAR	JOHNSON CREEK	S. FORK SALMON RIVER	TOTAL	FIVE YEAR AVERAGE
2000	25	566	591	
1999	23	277	300	
1998	48	517	565	
1997	94	544	638	
1996	23	159	182	
1995	9	97	106	
1994	20	239	259	478
1993	142	939	1081	
1992	76	685	761	
1991	64	393	457	
1990	56	386	442	
1989	42	217	259	567
1988	137	718	855	
1987	72	752	824	
1986	53	289	342	
1985	75	323	398	
1984	17	165	182	264
1983	63	185	248	
1982	37	111	148	
1981	45	126	171	
1980	24	116	140	
1979	36	115	151	227
1978	113	251	364	
1977	81	226	307	
1976	68	241	309	
1975	69	238	307	
1974	107	218	325	517
1973	271	586	857	
1972	220	567	787	
1971	183	421	604	
1970	130	527	657	
1969	273	636	909	800
1968	127	515	642	
1967	286	902	1188	
1966	110	980	1090	
1965	116	656	772	
1964	310	1124	1434	1301
1963	266	1057	1323	
1962	295	1589	1884	
1961	201	1058	1259	
1960	486	2290	2776	
1959	278	1305	1583	1991
1958	82	1206	1288	
1957	319	2732	3051	

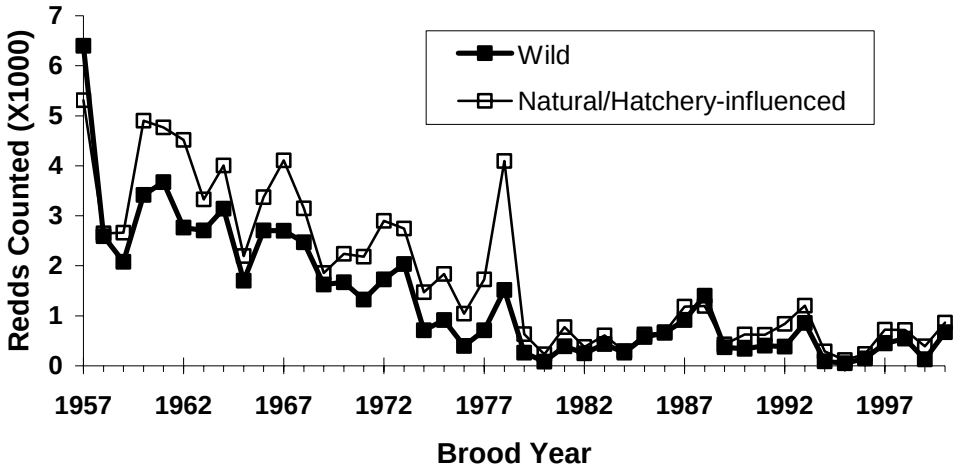

Figure 1. Numbers of combined spring and summer chinook redds (thousands) in Salmon River drainage and natural/hatchery-influenced trend areas wild and natural/hatchery-influenced trend area, 1957-2000. Hatchery-influence in spring chinook salmon areas began in 1981, and in 1980 in summer chinook salmon trend areas.

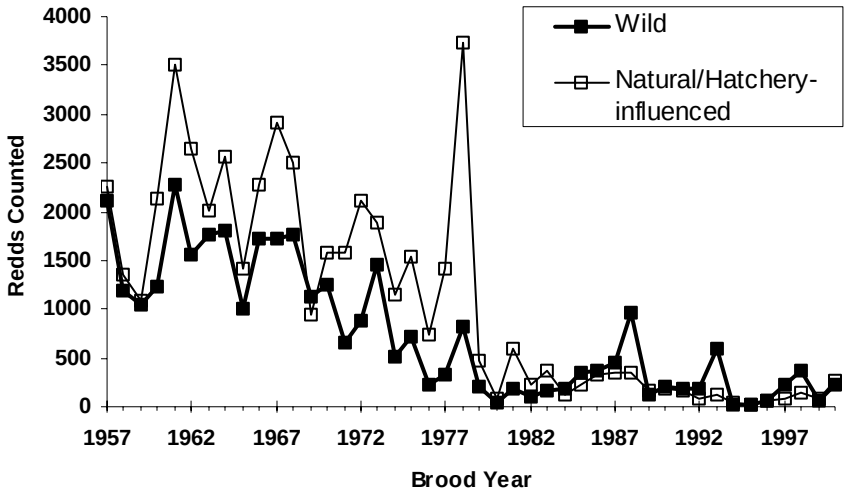

Figure 2. Numbers of spring chinook salmon redds counted in the Salmon River drainage, wild and natural/hatchery-influenced trend areas, 1957-2000. Hatchery influence began in 1981 at Sawtooth Hatchery weir and in 1984 at the East Fork Salmon River weir.

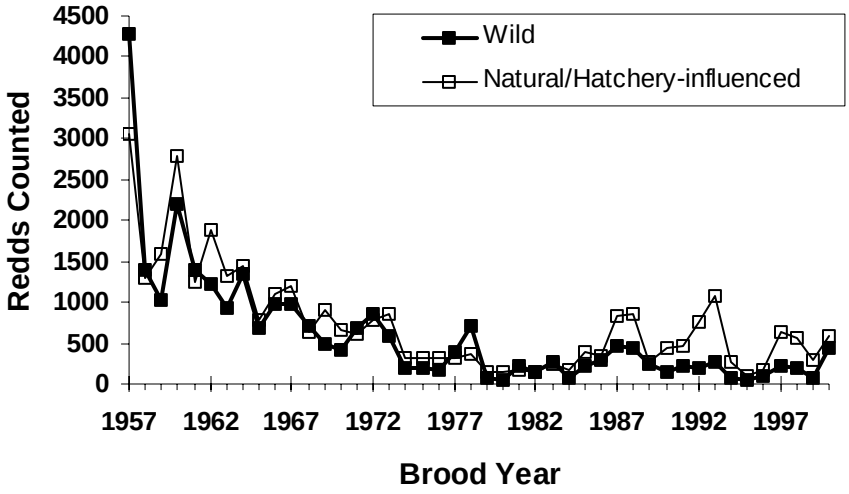

Figure 3. Numbers of summer chinook salmon redds counted in the Salmon River drainage, wild and natural/hatchery-trend areas, 1957-2000. Hatchery influence began at the South Fork Salmon River weir in 1980.

Table 5. Numbers of adult females, adult males and jack spring and summer chinook salmon trapped at hatchery weirs on the Salmon River drainage from 1996-2000, and the number of salmon released above these weirs to spawn

Weir	Run	Number Trapped				Number Released			
		Total	Females	Males	Jacks	Total	Females	Males	Jacks
Sawtooth	Spring Chinook								
2000		986	252	358	376	525	159	275	91
1999		196	35	82	79	129	22	54	53
1998		153	77	72	4	92	47	43	2
1997		254	101	144	9	112	43	64	5
1996		159	38	91	27	94	28	58	8
E. Fk. Salmon	Spring Chinook								
2000[a]		-	-	-	-	-	-	-	-
1999[a]		-	-	-	-	-	-	-	-
1998[a]		-	-	-	-	-	-	-	-
1997		7	2	5	0	7	2	5	0
1996		10	2	5	3	10	2	5	3
S. Fk. Salmon	Summer Chinook								
2000		459	194	177	88	98	45	40	13
1999		1961	601	617	743	334	132	165	37
1998		974	498	400	76	314	150	164	-
1997		147	63	81	3	72	29	40	3
1996		1199	181	280	738	175	51	89	35
Pahsimeroi	Summer Chinook								
2000		459	194	177	88	98	45	40	13
1999		377	156	132	89	177	64	59	54
1998		127	53	56	18	80	36	33	11
1997		147	63	81	3	72	29	40	3
1996		89	31	49	9	51	13	29	9
Rapid River[b]	Spring/Summer Chinook								
2000		4905[d]	-	-	1743	106	31	33	42
1999		871	147	84	640	7	1	5	1
1998		1633	937	689	7	42	14	28	0
1997		10773	1843	1494	3	253	133	120	0
1996		1496[c]	362	307	827	58	-	-	26

[a] E. Fk. Trap not operated for spring chinook adults in 1998-2000.

[b] Procedure is to pond hatchery spring chinook and release natural summer chinook. Stock separation based on marks since 1995.

[c] Includes 54 Oxbow Hatchery fish.

[d] There were 4,799 marked (hatchery, spring chinook), and 106 unmarked (natural, summer chinook) fish trapped. Of the 4,799 springs, there were 3,098 adults and 1,701 jacks. The 106 unmarked fish were all released upstream of the weir.

Table 6. Numbers of chinook salmon redds counted in Salmon River drainage non-traditional trend areas, 1991-2000. NC = no count, - = not routinely counted

Stream	Section	Year 91	92	93	94	95	96	97	98	99	00
Upper Salmon River System											
Alturas Lake Creek	Cabin Cr. Bridge to diversion dam	0	2	0	0	0	0	0	0	0	0
	Diversion dam to Alturas Lake	0	1	0	0	0	0	0	0	0	0
	Alturas Lake inlet to Alpine Creek	0	2	0	1	0	1	0	0	0	0
Salmon River	Breckenridge diversion dam to mouth of Pole Creek	NC	0	4	0	0	0	0	2	3	3
	Mouth of Pole Creek to headwaters	NC	0	1	0	0	0	0	0	0	0
Pole Creek	Mouth to diversion screen	0	0	0	0	0	0	0	0	0	0
	Fish screen to road crossing at upper end of meadow	0	0	0	0	0	0	0	0	0	0
Pahsimeroi River	Mouth to Hooper Lane	NC	NC	NC	17	11	16	8	17	21	13
North Fork Salmon River											
N. Fk. Salmon R.	Mouth to Pierce Creek	8	12	17	3	1	5	10	3	2	8[e]
Middle Fork Salmon River System											
Middle Fork Salmon River	Mouth to Loon Creek	0	0	0	0	NC	0	NC	NC	NC	8[C]
Sulphur Creek	Ranch upstream to island	24	0	36	0	1	4	2	22	0	2
Big Creek	Mouth to Monumental Creek	6	10	8	2	2	2	3	16	19	23
Main Salmon River Canyon											
Chamberlain Creek	Mouth of West Fork to Flossie Creek	NC	17	12	10	4	4	8	2	15	NC[d]
West Fork Chamberlain Creek	Mouth to Game Creek	NC	22	8	2	2	3	5	0	7	NC[d]
East Fork Salmon River System											
Herd Creek[a]	Bennett Ranch to mouth of East Pass Creek	2	3	39	3	0	0	14	3	3	3
E. F. of S. Fork Salmon River (EFSF)											
Johnson Creek	Mouth of Boulder Creek to head canyon[b]	12	16	40	1	0	1	5	0	0	1
Sand Creek	Sand Creek from mouth to bridge	0	0	0	0	0	0	0	0	0	0
E. Fk. S. Fk.	Yellow Pine to Sugar Creek	NC	23	19	1	0	0	10	NC	NC	15
	Profile Creek to Tamarack Creek	NC	9	14	6	0	0	NC	4	NC	5
	Profile Creek to Quartz Creek	6	NC	0	0	0	0	0	NC	NC	4
	Tamarack Creek to Salt Creek	NC	NC	21	0	NC	NC	NC	6	NC	3

[a]Redds counted by Shoshone-Bannock Tribe personnel, personal communication from Andy Kohler.
[b]Mouth of Whiskey Creek to head of canyon prior to 1993.
[c]Forest Service aerial count, personal communication from Russ Thurow.
[d]Not counted due to forest fires.
[e]Only the middle transect (ISS Strata 2) was counted (15.2 km out of 36.8 km).
[f]Mouth to Hooper Lane in 1994, 1995, 2000. Mouth to Patterson Creek (aka Big Springs Creek) 1996-1999.

Table 7. Numbers of chinook salmon redds counted in Salmon River drainage unclassified trend areas, 1962-2000. Camas Creek is defined as a wild stream and Yankee Fork as a hatchery-influenced system. Ground counting method was used except as indicated (A = air count, G = ground count for years where two methods were used). "NC" indicates transect was not counted.

YEAR	Camas Creek[a]	Lower Yankee Fork[b]	West Fork Yankee Fork[c]
2000	5(A)	1(A)	4(A)
1999	3(A)	1(A)	0(A)
1998	16(A)	2(A)	2(A)
1997	7(A)	1(A)	3(A)
1996	1(A)[d]	1(A)	1(A)
1995	0(A)	0(A)	0(A)
1994	2(A)	0(A)	1(A)
1993	26(A)	5(A)	4(A)
1992	7(A)	9(A)	3(A)
1991	11(A)	6(A)	4(A)
1990	3(A)	10(A)	7(A)
1989	29(A)	0(A)	8(A)
1988	NC	2(A)	16(A)
1987	32(A)	5(A)	12(A)
1986	11(A)	2(A)	6(A)
1985	21(A)	0(A)	1(A)
1984	6(A)	NC	0(A)
1983	26(A)	0(A)	7(A)
1982	29(A)	1(A)	0(A)
1981	61	16(A)	19
1980	11	0(A)	2
1979	13	NC	13
1978	102	27	98
1977	65	12	37
1976	21	5	11
1975	98	35	55
1974	132	28	20
1973	176	71	86
1972	123	78	117
1971	69	41	31
1970	49	79	112
1969	50	44	17
1968	164	97	284
1967	109	65	283
1966	118	132	210
1965	22	63	93
1964	177	54	78
1963	151	92	142
1962	124(G),61(A)	68(G),32(A)	127(G),33(A)

[a] 1986-2000: WS-8; Castle Creek to Hammer Creek.

[b] 1962: mouth to Jordan Creek; 1963-78: Pole Flat Forest Camp to Jordan Creek; 1980- 85: Pole Flat Forest Camp to West Fork Yankee Fork; 1986-2000: Polecamp Creek to Jordan Creek.

[c] 1960 and 1963-76: mouth to Lightning Creek; 1977-85: mouth to Deadwood Creek; 1961-62 and 1986-2000: mouth to Cabin Creek.

[d] Camas Creek: Mouth to Fly Creek = 0 redds, Hammer Creek to Castle Creek = 0 redds.

Length, age and sex composition data for spring and summer chinook salmon carcasses sampled during spawning ground surveys for the Salmon River drainage are listed in Appendix B.

Redd count maps for the Salmon River drainage are presented in Appendix C.

Clearwater River Drainage

The total number of spring chinook salmon redds counted in natural spawning areas of the Clearwater River drainage during 2000 was 84. This is an increase of 600% from the 12 counted in 1999, and a 425% increase of the 1995-1999 average of 16 (Table 8, Figure 4).

The 232 redds counted in the hatchery-influenced spawning areas in 2000 were much higher than the 1999 total count of 12. For the Lochsa and the South Fork Clearwater drainages, the total of 232 redds were an increase of 109% from the 1995-1999 average of 111(Table 9, Figure 5).

The total number of redds counted in the nontraditional trend areas of the Clearwater River drainage during 2000 increased to 15 from 5 in 1999(Table 10). The 2000 count is 48% of the five-year (1995-1999) average (Table 10).

Numbers of spring chinook salmon trapped at hatchery weirs in the Clearwater River drainage (Red River, Powell, Crooked River, and Kooskia NFH) totaled 4,614 (Table 11). There were 761 fish released upstream of the weirs.

Redd counts conducted for purposes other than Department standard surveys in the Clearwater drainage are identified in Table 12.

Length, age and sex composition data for spring chinook salmon intercepted at the Red River, Crooked River, and Powell (Walton Creek) weirs are listed in Appendix A. The Red River and Crooked River length frequency information will be listed as the S. Fk. Clearwater River stock in future reports.

Length, age and sex composition data for spring chinook salmon carcasses sampled during spawning ground surveys for the Clearwater River drainage are listed in Appendix B.

Redd count maps for the Clearwater River drainage are presented in Appendix C.

Sockeye Salmon

The Redfish Lake Creek adult trap was operated from July 22 to September 16, 2000 with 119 adults (69 marked males, 4 unmarked males, 40 marked females, 6 unmarked females) being trapped (unpublished data, Paul Kline, IDFG, 4/24/02). During the same period, 123 hatchery adult sockeye (84 marked males, 39 marked females) were trapped at the Sawtooth Fish Hatchery weir.

Table 8. Numbers of spring chinook salmon redds counted in Clearwater River drainage natural trend areas, 1966-2000. NC = no count.

YEAR	SELWAY RIVER	BEAR CREEK	RUNNING CREEK	WHITECAP CREEK	MOOSE CREEK	TOTALS	FIVE YEAR AVERAGE
2000	63	13	0	8	0	84	
1999	5	7	0	0	0	12	
1998	13	11	0	1	6	31	
1997	13	2	0	0	3	18	
1996	10	1	0	0	0	11	
1995	4[a]	2	0	0	4	10	
1994	10	9	0	2	0	21	26
1993	33	13	0	5	10	61	
1992	18	9	0	0	2	29	
1991	12	8	0	1	2	23	
1990	13	6	1	2	2	24	
1989	5	7	0	3	3	18	38
1988	38	10	2	5	7	62	
1987	36	9	4	6	8	63	
1986	30	10	NC	7	9	56	
1985	15	NC	NC	NC	NC	15	
1984	30	6	NC	6	7	49	44
1983	26	8	NC	4	6	44	
1982	38	8	NC	3	5	54	
1981	47	8	NC	4	6	65	
1980	40	7	1	3	4	55	
1979	21	3	0	2	4	30	90
1978	125	13	6	NC	17	161	
1977	97	18	2	1	23	141	
1976	58	14	3	4	15	94	
1975	21	5	NC	1	4	31	
1974	66	10	4	2	15	97	160
1973	261	26	21	7	32	347	
1972	175	25	11	8	13	232	
1971	55	14	8	NC	NC	77	
1970	65	19	10	4	NC	98	
1969	57	6	21	NC	NC	84	63
1968	16	7	4	NC	NC	27	
1967	22	7	NC	NC	NC	29	
1966	36	8	NC	NC	NC	44	

[a] Includes ground count for WC-7, from Magruder Crossing to Little Clearwater River.

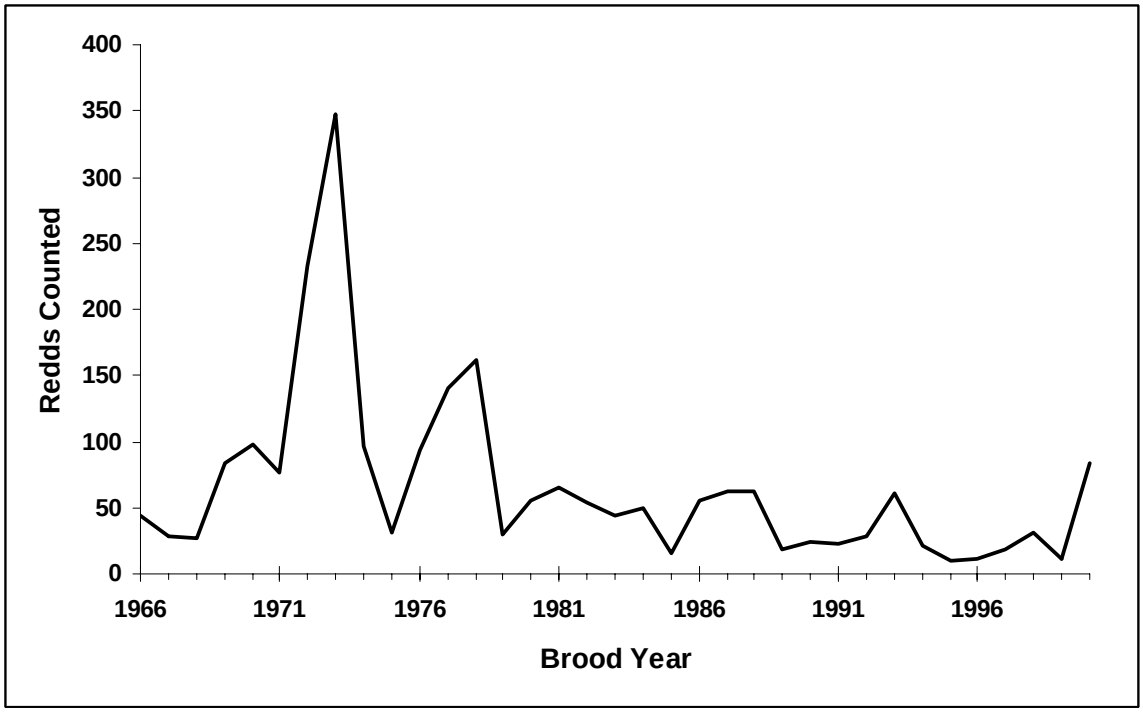

Figure 4. Numbers of spring chinook salmon redds counted in Clearwater River drainage natural trend areas, 1966-2000

Table 9. Numbers of spring chinook salmon redds counted in Clearwater River drainage hatchery-influenced trend areas, 1967-2000. NC = no count, - = not routinely counted.

			LOCHSA RIVER					SOUTH FORK		CLEARWATER		
	CROOKED	BRUSHY	DRAINAGE		NEWSOME	CROOKED	RED	AMERICAN	DRAINAGE	RIVER DRAINAGE		
YEAR	FORK	FORK	TOTAL	FIVE YR.	CREEK	RIVER	RIVER	RIVER	TOTAL	FIVE YR.	TOTAL	FIVE YR.
2000	52	6	58		12	53	83	26	174		232	
1999	6	0	6		1	1	4	0	6		12	
1998	16	12	28		10	7	27	4	48		76	
1997	47	30	77		48	18	95	153	314		391	
1996	22	0	22		4	5	29	6	44		66	
1995	1	5	6		0	2	4	0	6		12	
1994	1	0	1	23	0	4	11	1	16	64	17	87
1993	34	29	63		64	27	43	75	209		272	
1992	22	1	23		0	NC	46	1	47		70	
1991	9	1	10		0	NC	5	1	6		16	
1990	16	4	20		0	10	66	2	78		98	
1989	8	9	17	27	4	3	45	1	53	78	70	105
1988	42	9	51		20	27	51	12	110		161	
1987	28	10	38		15	17	81	31	144		182	
1986	30	11	41		6	9	82	14	111		152	
1985	47	14	61		7	10	92	23	132		193	
1984	28	9	37	41	1	22	65	NC	88	111	125	152
1983	7	6	13		7	12	85	9	113		126	
1982	34	17	51		5	4	82	21	112		163	
1981	27	25	52		7	9	47	12	75		127	
1980	16	10	26		7	6	31	7	51		77	
1979	6	12	18	45	9	4	20	-	33	69	51	114
1978	37	25	62		22	17	52	-	91		153	
1977	51	15	66		26	21	50	-	97		163	
1976	33	13	46		5	13	15	-	33		79	
1975	22	4	26		6	33	20	-	59		85	
1974	22	6	28	45	-	5	12	-	17	22	45	66
1973	60	-	60		-	-	-	-	0		60	
1972	32	31	63		-	-	-	-	0		63	

Table 9. continued

YEAR	CROOKED FORK	BRUSHY FORK	LOCHSA RIVER DRAINAGE TOTAL	LOCHSA RIVER DRAINAGE FIVE YR.	NEWSOME CREEK	CROOKED RIVER	RED RIVER	AMERICAN RIVER	SOUTH FORK DRAINAGE TOTAL	SOUTH FORK DRAINAGE FIVE YR.	CLEARWATER RIVER DRAINAGE TOTAL	CLEARWATER RIVER DRAINAGE FIVE YR.
1971	1	-	1		-	-	-	-	0		1	
1970	34	-	34		-	-	-	-	0		34	
1969	112	-	112	32	-	-	-	-	0	0	112	32
1968	15	-	15		-	-	-	-	0		15	
1967	0	-	0		-	-	-	-	0		0	

Table 10. Numbers of spring chinook salmon redds counted in Clearwater River drainage nontraditional trend areas, 1991-2000. NC = no count, - = not routinely counted.

Stream	Section	Year										
		1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	
S.F. Red River	Mouth to Schooner Cr.	NC	NC	NC	2	0	0	0	0	NC		NC
Crooked Fork Cr.	Mouth to Brushy Fork	-	-	-	-	-	-	-	-	-		-
	Brushy Fk. to Shotgun Cr.	-	-	-	-	-	-	-	-	-	-	
	Shotgun Cr. to Boulder Cr.	-	-	-	-	-	-	-	-	-	-	
	Boulder Cr. to Hopeful Cr.	-	-	-	-	-	-	-	-	-	-	
	Mouth to Hopeful Creek	10	32	49	7	4	31	39	9	2	8	
Brushy Fork Cr.	Mouth to Twin Cr.	-	-	-	-	-	-	-	-	-	-	
	Twin Cr. to Spruce Cr.	-	-	-	-	-	-	-	-	-	-	
	Mouth to Spruce Creek	5	9	28	4	6	6	36	12	3	5	
Colt Killed Cr.[a]	Mouth to Big Flat Cr.	0	0	4	1	0	1	5	0	0	2	
Lolo Creek	White Cr. bridge to uppermost K-dam	11	14	-	-	-	NC	NC	NC	NC	NC	
Total		26	55	81	14	10	38	80	21	5		15

[a] Name changed from White Sand Creek circa 1997.

Table 11. Numbers of adult females, adult males and jack spring chinook salmon trapped at hatchery weirs on the Clearwater River drainage in 1996 - 2000, and the number of salmon released above these weirs to spawn.

Weir	Run	Number trapped				Number released		
		Total	Females	Males	Jacks	Total	Females	Males
Powell	Spring Chinook							
2000		1571	868	379	324	231	46	37
1999		188	33	31	124	8	2	1
1998		541	248	266	1	43[b]	-	-
1997		618	311	305	2	115	55	60[a]
1996		186	70	71	45	5	0	5
Red River	Spring Chinook							
2000		315[b]	-	-	182	124[b]	-	-
1999		31[b]	-	-	-	24	1	1
1998		90[b]	-	-	-	36	-	-
1997		280[b]	-	-	-	57	23	34
1996		62	14	39	9	17	1	12
Crooked River	Spring Chinook							
2000		1157[b]	-	-	472	406[b]	-	-
1999		125[b]	-	-	-	55	1	1
1998		277[b]	-	-	-	79[b]	-	-
1997		1034[b]	-	-	-	126	74	52
1996		299	94	113	92	63	20	31
Kooskia NFH	Spring Chinook							
2000		1571 [b]			966	0	0	0
1999		157 [b]			72	-	-	-
1998		408 [b]	-	-	1	27[b]	-	-
1997		1657[f]	-	-	7	534[f]	284	192
1996		202[g]	65	41	86	32[b]	-	-

[a] Number of males released includes adults and jacks combined.
[b] Sex undetermined.
[c] Sex undetermined. Total number released includes 52 fish with undetermined sex.
[d] Includes (10) sex unknown.

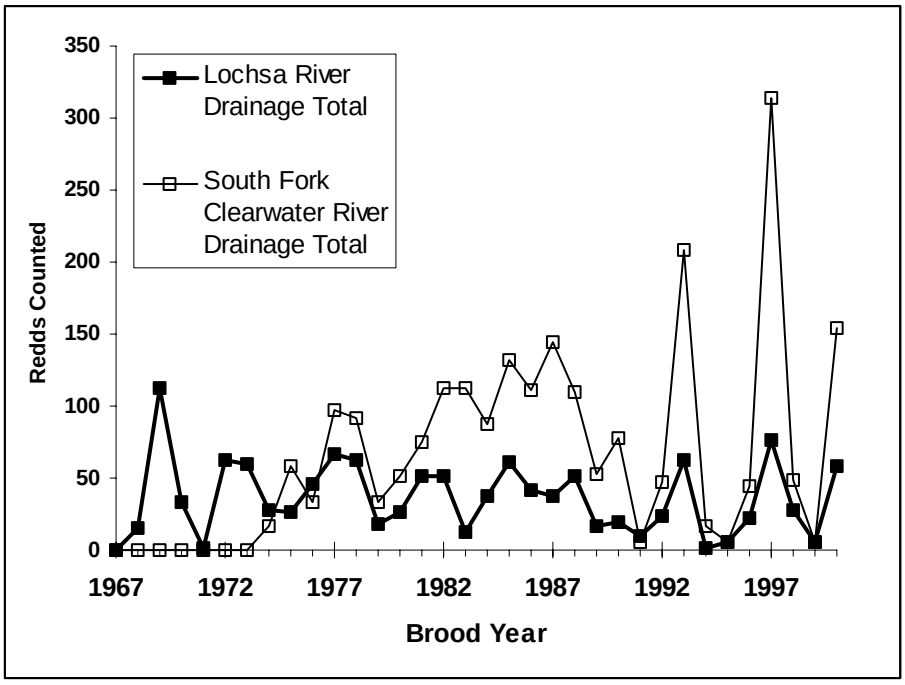

Figure 5. Numbers of spring chinook salmon redds counted in Clearwater River drainage hatchery-influenced trend areas, 1968-2000.

Table 12. Redd counts conducted for purposes other than Idaho Department of Fish and Game standard redd count information, 2000

Agency/Tribe	Study	Drainage	Stream
Idaho Dept. Fish and Game	ISS[a]	Clearwater River	Red River
	ISS		American River
	ISS		S. Fk. Clearwater River
	ISS		Ten Mile Creek
	ISS		Johns Creek
	ISS		Big Flat Creek
	ISS		Colt Killed Creek
	ISS		Spruce Creek
	ISS		Crooked Fork Creek
	ISS		Brushy Fork Creek
	ISS		Big Sand Creek
	ISS		Storm Creek
	ISS		Colt Creek
	ISS	Salmon River	Pahsimeroi River
	ISS		Lemhi River
	ISS		N. Fk. Salmon River
	ISS		E. Fk. S. Fk. Salmon R.
	ISS		Burnt Log Creek
	ISS		Meadow Creek
	ISS		Sugar Creek
	ISS		Curtis Creek
	ISS		Cabin Creek
	ISS		Warm Lake Creek
	ISM[B]		Alturas Lake Creek
	ISM		Upper Salmon River
	ISM		Frenchman Creek
	ISM		Smiley Creek
Nez Perce Tribe	UCS[c]	Salmon River	Salmon River
	ISS		Slate Creek
	LSRCP[d]	S.Fk. Salmon River	Johnson Creek
	ISS		Lake Creek
	ISS		Secesh River
	LSRCP		S.Fk. Salmon River
	LSRCP	M.Fk. Salmon River	Big Creek
	UCS	Clearwater River	Clearwater River
	NPTH[e]/ISS		Lolo Creek
	NPTH/ISS		Yoosa Creek
	NPTH/ISS		Eldorado Creek
	NPTH		Musselshell Creek
	NPTH	S. Fk. Clearwater	Meadow Creek
	NPTH		Mill Creek
	NPTH/ISS		Newsome Creek
	UCS		S. Fk. Clearwater River
	UCS	M. Fk. Clearwater	M. Fk. Clearwater River
	NPTH	Selway River	Meadow Creek
	NPTH		O'Hara Creek
	NPTH/UCS		Selway River
	NPTH	Lochsa River	Boulder Creek
	ISS		Papoose Creek
	ISS		Squaw Creek
	NPTH		Warmsprings Creek
Shoshone-Bannock Tribes	ISS	M. Fk. Salmon River	Bear Valley Creek
	ISS	Salmon River	E. Fk. Salmon River
	ISS		Herd Creek
	ISS		Valley Creek
	ISS		W. Fk. Yankee Creek
	SRHE[f]		Yankee Fork Salmon River

Table 12. continued

Agency/Tribe	Study	Drainage	Stream
U.S. Fish & Wildlife Service	ISS	Clearwater River	Pete King Creek
	ISS		Clear Creek
U.S. Forest Service	*[g]	M. Fk. Salmon River	Mainstem
Rocky Mountain Research Station			Bear Valley Creek
			Beaver Creek
			Big Creek
			Camas Creek
			Indian Creek
			Little Pistol Creek
			Loon Creek
			Marble Creek
			Marsh Creek
			Monumental Creek
			Pistol Creek
			Rapid River
			Sheep Creek
			Sulphur Creek
			Wilson Creek

[a] Idaho supplementation study (ISS)
[b] Intensive Smolt Monitoring (ISM)
[c] Upper Clearwater fall chinook salmon study (UCS), multiple air counts
[d] Lower Snake River Compensation (LSRCP), multiple ground counts
[e] Nez Perce Tribe Hatchery Monitoring and Evaluation (NPTH), multiple ground counts
[f] Salmon River Habitat Enhancement Project
[g] Chinook salmon Spatial Habitat Analysis Project

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APPENDICES

Appendix A1 Length frequency and age composition of spring chinook salmon trapped at the Sawtooth Hatchery Weir, 2000[a].

	Males				Females			
Fork Length (cm)	Total Number Recovered	Percent of Total	Age Class		Total Number Recovered	Percent of Total	Age Class	
39	1	0.1%			0	0.0%		
40	1	0.1%			0	0.0%		
41	2	0.3%			0	0.0%		
42	3	0.4%			0	0.0%		
43	8	1.1%			0	0.0%		
44	8	1.1%			0	0.0%		
45	13	1.8%			0	0.0%		
46	19	2.6%			0	0.0%		
47	21	2.9%			0	0.0%		
48	33	4.5%			0	0.0%		
49	34	4.6%			0	0.0%		
50	35	4.8%		Jacks	0	0.0%		Age 3
51	27	3.7%	n =	376	0	0.0%	n =	0
52	24	3.3%		51.2%	0	0.0%		0.0%
53	24	3.3%			0	0.0%		
54	22	3.0%			0	0.0%		
55	20	2.7%			0	0.0%		
56	21	2.9%			0	0.0%		
57	9	1.2%			0	0.0%		
58	15	2.0%			0	0.0%		
59	9	1.2%			0	0.0%		
60	6	0.8%			0	0.0%		
61	4	0.5%			0	0.0%		
62	5	0.7%			0	0.0%		
63	6	0.8%			0	0.0%		
64	6	0.8%			0	0.0%		
65	2	0.3%			1	0.4%		
66	5	0.7%			1	0.4%		
67	1	0.1%			0	0.0%		
68	5	0.7%			3	1.2%		
69	7	1.0%			0	0.0%		
70	11	1.5%			2	0.8%		
71	14	1.9%			4	1.6%		
72	16	2.2%			9	3.6%		
73	21	2.9%			5	2.0%		
74	18	2.5%			9	3.6%		
75	26	3.5%			11	4.4%		
76	21	2.9%			19	7.5%		
77	28	3.8%			16	6.3%		
78	23	3.1%		Age 4	22	8.7%		Age 4
79	23	3.1%	n =	299	24	9.5%	n =	201
80	37	5.0%		40.7%	30	11.9%		79.8%
81	27	3.7%			24	9.5%		
82	14	1.9%			21	8.3%		
83	9	1.2%			14	5.6%		
84	17	2.3%			7	2.8%		
85	9	1.2%			5	2.0%		
86	2	0.3%			1	0.4%		
87	7	1.0%			4	1.6%		
88	4	0.5%			2	0.8%		
89	3	0.4%			2	0.8%		
90	0	0.0%			5	2.0%		
91	0	0.0%			1	0.4%		
92	0	0.0%			0	0.0%		
93	2	0.3%			4	1.6%		
94	2	0.3%			1	0.4%		
95	1	0.1%			1	0.4%		
96	0	0.0%			0	0.0%		
97	0	0.0%			1	0.4%		
98	2	0.3%			0	0.0%		
99	0	0.0%		Age 5	0	0.0%		Age 5
100	0	0.0%	n =	59	0	0.0%	n =	51
101	0	0.0%		8.0%	0	0.0%		20.2%
102	0	0.0%			1	0.4%		
103	0	0.0%			0	0.0%		
104	0	0.0%			0	0.0%		
105	1	0.1%			0	0.0%		
106	0	0.0%			0	0.0%		
107	0	0.0%			0	0.0%		
108	0	0.0%			1	0.4%		
109	0	0.0%			0	0.0%		
110	0	0.0%			1	0.4%		
Total	**734**				**252**			

[a]Age break criteria from Sawtooth Hatchery Run Report 2000.

Appendix A2. **The East Fork Salmon River Weir was not operated for spring chinook in 2000.**

Appendix A3. Length frequency and age composition of summer chinook salmon trapped at the South Fork Salmon River Weir, 2000[a].

Males				Females			
Fork Length (cm)	Total Number Recovered	Percent of Total	Age Class	Total Number Recovered	Percent of Total	Age Class	
37	1	0.02		0	0.00		
38	1	0.02		0	0.00		
39	4	0.08		0	0.00		
40	9	0.18		0	0.00		
41	12	0.24		0	0.00		
42	17	0.34		0	0.00		
43	16	0.32		0	0.00		
44	31	0.61		0	0.00		
45	27	0.54		0	0.00		
46	59	1.17		0	0.00		
47	72	1.43		0	0.00		
48	113	2.24	Jacks	0	0.00	Age 3	
49	164	3.25	n = 3416	0	0.00	n = 0	
50	187	3.71	67.8%	0	0.00	0.0%	
51	207	4.11		0	0.00		
52	254	5.04		0	0.00		
53	305	6.05		0	0.00		
54	263	5.22		0	0.00		
55	258	5.12		0	0.00		
56	283	5.61		0	0.00		
57	271	5.38		0	0.00		
58	227	4.50		0	0.00		
59	176	3.49		0	0.00		
60	155	3.07		0	0.00		
61	92	1.83		0	0.00		
62	70	1.39		0	0.00		
63	51	1.01		0	0.00		
64	42	0.83		0	0.00		
65	35	0.69		0	0.00		
66	14	0.28		0	0.00		
67	16	0.32		1	0.06		
68	24	0.48		3	0.17		
69	17	0.34		1	0.06		
70	19	0.38		6	0.34		
71	21	0.42		9	0.51		
72	33	0.65		11	0.62		
73	58	1.15		24	1.36		
74	68	1.35		48	2.71		
75	81	1.61	Age 4	69	3.90	Age 4	
76	93	1.84	n = 1579	89	5.03	n = 1727	
77	126	2.50	31.3%	160	9.03	97.5%	
78	144	2.86		182	10.28		
79	125	2.48		229	12.93		
80	162	3.21		227	12.82		
81	136	2.70		195	11.01		
82	126	2.50		151	8.53		
83	84	1.67		115	6.49		
84	95	1.88		101	5.70		
85	60	1.19		52	2.94		
86	34	0.67		30	1.69		
87	26	0.52		17	0.96		
88	17	0.34		4	0.23		
89	14	0.28		3	0.17		
90	9	0.18		6	0.34		
91	4	0.08		4	0.23		
92	2	0.04		6	0.34		
93	3	0.06		7	0.40		
94	4	0.08		6	0.34		
95	2	0.04	Age 5	4	0.23	Age 5	
96	3	0.06	n = 46	2	0.11	n = 44	
97	3	0.06	0.9%	1	0.06	2.5%	
98	1	0.02		3	0.17		
99	1	0.02		3	0.17		
100	2	0.04		1	0.06		
101	3	0.06		0	0.00		
102	1	0.02		0	0.00		
103	2	0.04		1	0.06		
104	3	0.06		0	0.00		
105	2	0.04		0	0.00		
109	1	0.02		0	0.00		
Total	**5041**			**1771**			

[a]Age break criteria from McCall Hatchery Run Report 2000.

Appendix A4. Length frequency and age composition of hatchery-spring, and natural-summer chinook salmon trapped at the Rapid River Hatchery Weir, 2000[a].

Springs[b]					Summers[c]			
Fork length(cm)	Total Number Recovered	Percent of Total	Age Class		Total Number Recovered	Percent of Total	Age Class	
< 50	904	24.4%			28	26.4%		
50	146	3.9%			4	3.8%		
51	132	3.6%			1	0.9%		
52	117	3.2%			5	4.7%		
53	64	1.7%		Jacks	0	0.0%		Jacks
54	51	1.4%	n =	1499	0	0.0%	n =	42
55	27	0.7%		40.5%	0	0.0%		39.6%
56	17	0.5%			1	0.9%		
57	18	0.5%			0	0.0%		
58	7	0.2%			0	0.0%		
59	6	0.2%			1	0.9%		
60	5	0.1%			0	0.0%		
61	5	0.1%			2	1.9%		
62	3	0.1%			0	0.0%		
63	3	0.1%			0	0.0%		
64	14	0.4%			0	0.0%		
65	11	0.3%			0	0.0%		
66	16	0.4%			4	3.8%		
67	40	1.1%			0	0.0%		
68	40	1.1%			5	4.7%		
69	63	1.7%			4	3.8%		
70	105	2.8%		Age 4	3	2.8%		Age 4
71	168	4.5%	n =	2197	6	5.7%	n =	63
72	245	6.6%		59.3%	8	7.5%		59.4%
73	244	6.6%			4	3.8%		
74	258	7.0%			2	1.9%		
75	231	6.2%			6	5.7%		
76	233	6.3%			5	4.7%		
77	192	5.2%			5	4.7%		
78	115	3.1%			4	3.8%		
79	69	1.9%			2	1.9%		
80	62	1.7%			2	1.9%		
81	34	0.9%			1	0.9%		
82	20	0.5%			0	0.0%		
83	13	0.4%			1	0.9%		
84	13	0.4%			0	0.0%		
85	5	0.1%			1	0.9%		
86	4	0.1%			0	0.0%		
87	0	0.0%			0	0.0%		
88	2	0.1%			1	0.9%		
89	1	0.0%			0	0.0%		
90	0	0.0%		Age 5	0	0.0%		Age 5
91	0	0.0%	n =	9	0	0.0%	n =	1
92	0	0.0%		0.2%	0	0.0%		0.9%
93	0	0.0%			0	0.0%		
94	0	0.0%			0	0.0%		
95	0	0.0%			0	0.0%		
96	2	0.1%			0	0.0%		
Total	**3705**				**106**			

[a]Age break criteria from Rapid River Hatchery Run Report 2000.
[b]Sex composition spring chinook: 1,498 jacks, 1,094 males, 1,375 females
[c]Sex composition summer chinook: 42 jacks, 33 males, 31 females.

Appendix A5. Length frequency and age composition of spring chinook salmon trapped at the Red River and Crooked River weirs (South Fork Clearwater River stock), 2000[abcde]

Males					Females				Unknown[e]			
Fork Length (cm)	Total Number Recovered	Percent of Total	Age Class		Total Number Recovered	Percent of Total	Age Class		Total Number Recovered	Percent of Total	Age Class	
36	1	0.1%			0	0.0%			0	0.0%		
37	2	0.2%			0	0.0%			0	0.0%		
38	1	0.1%			0	0.0%			0	0.0%		
39	2	0.2%			0	0.0%			0	0.0%		
40	5	0.5%			0	0.0%			0	0.0%		
41	4	0.4%			0	0.0%			0	0.0%		
42	13	1.3%			0	0.0%			0	0.0%		
43	8	0.8%		Jacks	0	0.0%		Age 3	0	0.0%		Age 3
44	21	2.0%	n =	664	0	0.0%	n =	4	0	0.0%	n =	1
45	14	1.4%		64.7%	0	0.0%		0.7%	0	0.0%		11.1%
46	49	4.8%			0	0.0%			0	0.0%		
47	47	4.6%			0	0.0%			1	11.1%		
48	65	6.3%			0	0.0%			0	0.0%		
49	64	6.2%			0	0.0%			0	0.0%		
50	90	8.8%			0	0.0%			0	0.0%		
51	67	6.5%			0	0.0%			0	0.0%		
52	75	7.3%			1	0.2%			0	0.0%		
53	49	4.8%			0	0.0%			0	0.0%		
54	38	3.7%			0	0.0%			0	0.0%		
55	19	1.9%			1	0.2%			0	0.0%		
56	10	1.0%			0	0.0%			0	0.0%		
57	7	0.7%			0	0.0%			0	0.0%		
58	7	0.7%			0	0.0%			0	0.0%		
59	3	0.3%			0	0.0%			0	0.0%		
60	0	0.0%			2	0.4%			0	0.0%		
61	1	0.1%			0	0.0%			0	0.0%		
62	2	0.2%			0	0.0%			0	0.0%		
63	1	0.1%			5	0.9%			0	0.0%		
64	3	0.3%			1	0.2%			0	0.0%		
65	2	0.2%			3	0.5%			0	0.0%		
66	1	0.1%			2	0.4%			0	0.0%		
67	5	0.5%			7	1.3%			0	0.0%		
68	11	1.1%			8	1.5%			0	0.0%		
69	14	1.4%		Age 4	25	4.5%		Age 4	0	0.0%		Age 4
70	17	1.7%	n =	344	30	5.4%	n =	543	1	11.1%	n =	8
71	20	1.9%		33.5%	51	9.3%		98.5%	0	0.0%		88.9%
72	25	2.4%			46	8.3%			0	0.0%		
73	36	3.5%			79	14.3%			0	0.0%		
74	28	2.7%			67	12.2%			1	11.1%		
75	32	3.1%			71	12.9%			1	11.1%		
76	30	2.9%			56	10.2%			4	44.4%		
77	25	2.4%			43	7.8%			0	0.0%		
78	31	3.0%			17	3.1%			0	0.0%		
79	23	2.2%			15	2.7%			1	11.1%		
80	18	1.8%			10	1.8%			0	0.0%		
81	14	1.4%			2	0.4%			0	0.0%		
82	8	0.8%			5	0.9%			0	0.0%		
83	6	0.6%			1	0.2%			0	0.0%		
84	3	0.3%		Age 5	3	0.5%		Age 5	0	0.0%		Age 5
85	5	0.5%	n =	19	0	0.0%	n =	4	0	0.0%	n =	0
86	2	0.2%		1.9%	0	0.0%		0.7%	0	0.0%		0.0%
87	2	0.2%			0	0.0%			0	0.0%		
88	1	0.1%			0	0.0%			0	0.0%		
Total	**1027**				**551**				**9**			

[a]Age break criteria from Clearwater Hatchery Run Report 2000.
[b]There were 1157 fish trapped at Crooked River weir, and 315 trapped at Red River weir.
[c]This includes 130 fish (10 jacks, 60 females, 60 males) transferred from Powell and combined with the S. Fk. Clearwater fish.
[d]There were 15 fish (13 females and 2 males) that were released and not measured.
[e]There were 8 released above the weir and 1 mortality of unknown gender.

Appendix A6 Length frequency and age composition of spring chinook salmon trapped at the Powell and Crooked Fork Creek weirs, 2000[abc]

Males					Females				Unknown[c]			
Fork Length (cm)	Total Number Recovered	Percent of Total	Age Class		Total Number Recovered	Percent of Total	Age Class		Total Number Recovered	Percent of Total	Age Class	
45	50	7.8%			0	0.0%			0	0.0%		
46	18	2.8%			0	0.0%			0	0.0%		
47	20	3.1%			0	0.0%			0	0.0%		
48	25	3.9%			0	0.0%			0	0.0%		
49	31	4.9%			0	0.0%			0	0.0%		
50	33	5.2%		Jacks	0	0.0%		Age 3	0	0.0%		Age 3
51	24	3.8%	n =	304	0	0.0%	n =	1	0	0.0%	n =	0
52	24	3.8%		47.7%	0	0.0%		0.2%	0	0.0%		0.0%
53	16	2.5%			0	0.0%			0	0.0%		
54	17	2.7%			1	0.2%			0	0.0%		
55	12	1.9%			0	0.0%			0	0.0%		
56	8	1.3%			0	0.0%			0	0.0%		
57	8	1.3%			0	0.0%			0	0.0%		
58	5	0.8%			0	0.0%			0	0.0%		
59	1	0.2%			0	0.0%			0	0.0%		
60	6	0.9%			0	0.0%			0	0.0%		
61	3	0.5%			0	0.0%			0	0.0%		
62	3	0.5%			0	0.0%			0	0.0%		
63	1	0.2%			0	0.0%			0	0.0%		
64	1	0.2%			0	0.0%			0	0.0%		
65	0	0.0%			0	0.0%			1	3.2%		
66	0	0.0%			1	0.2%			1	3.2%		
67	4	0.6%			3	0.5%			0	0.0%		
68	1	0.2%			0	0.0%			2	6.5%		
69	1	0.2%		Age 4	3	0.5%		Age 4	0	0.0%		Age 4
70	6	0.9%	n =	263	13	2.0%	n =	625	2	6.5%	n =	28
71	5	0.8%		41.3%	15	2.3%		96.5%	2	6.5%		90.3%
72	10	1.6%			35	5.4%			1	3.2%		
73	25	3.9%			51	7.9%			3	9.7%		
74	12	1.9%			55	8.5%			2	6.5%		
75	16	2.5%			53	8.2%			2	6.5%		
76	28	4.4%			103	15.9%			2	6.5%		
77	22	3.5%			70	10.8%			2	6.5%		
78	37	5.8%			73	11.3%			2	6.5%		
79	21	3.3%			50	7.7%			2	6.5%		
80	23	3.6%			46	7.1%			0	0.0%		
81	27	4.2%			35	5.4%			2	6.5%		
82	23	3.6%			19	2.9%			2	6.5%		
83	16	2.5%			12	1.9%			2	6.5%		
84	17	2.7%			9	1.4%			0	0.0%		
85	12	1.9%			1	0.2%			0	0.0%		
86	11	1.7%		Age 5	0	0.0%		Age 5	0	0.0%		Age 5
87	3	0.5%	n =	70	0	0.0%	n =	22	1	3.2%	n =	3
88	7	1.1%		11.0%	0	0.0%		3.4%	0	0.0%		9.7%
89	2	0.3%			0	0.0%			0	0.0%		
90	0	0.0%			0	0.0%			0	0.0%		
91	1	0.2%			0	0.0%			0	0.0%		
92	0	0.0%			0	0.0%			0	0.0%		
93	1	0.2%			0	0.0%			0	0.0%		
Total	**637**				**648**				**31**			

[a]Age break criteria from Clearwater Hatchery Run Report 2000.
[b]There were 319 fish (301 adipose clipped, 18 unmarked) trapped at Crooked Fork Creek weir, and 1283 (1223 AD, 1 LV, 59 unmarked) trapped at Powell weir.
[c]There were 80 females and 76 males released and not measured.

Appendix A7 Length frequency and age composition of summer chinook salmon trapped at the Pahsimeroi Hatchery Weir, 2000[a].

Males					Females			
Fork Length (cm)	Total Number Recovered	Percent of Total	Age Class		Total Number Recovered	Percent of Total	Age Class	
41	4	1.5%			0	0.0%		
42	2	0.8%			0	0.0%		
43	3	1.1%			0	0.0%		
44	3	1.1%			0	0.0%		
45	2	0.8%			0	0.0%		
46	2	0.8%			0	0.0%		
47	4	1.5%		Jacks	0	0.0%		Age 3
48	1	0.4%	n =	88	0	0.0%	n =	0
49	8	3.0%		33.2%	0	0.0%		0.0%
50	4	1.5%			0	0.0%		
51	5	1.9%			0	0.0%		
52	5	1.9%			0	0.0%		
53	2	0.8%			0	0.0%		
54	3	1.1%			0	0.0%		
55	2	0.8%			0	0.0%		
56	1	0.4%			0	0.0%		
57	3	1.1%			0	0.0%		
58	9	3.4%			0	0.0%		
59	5	1.9%			0	0.0%		
60	11	4.2%			0	0.0%		
61	9	3.4%			0	0.0%		
62	8	3.0%			0	0.0%		
63	4	1.5%			0	0.0%		
64	5	1.9%			0	0.0%		
65	9	3.4%			3	1.5%		
66	5	1.9%			0	0.0%		
67	4	1.5%			0	0.0%		
68	3	1.1%			0	0.0%		
69	3	1.1%		Age 4	0	0.0%		Age 4
70	4	1.5%	n =	158	2	1.0%	n =	162
71	5	1.9%		59.6%	3	1.5%		83.5%
72	6	2.3%			5	2.6%		
73	7	2.6%			4	2.1%		
74	7	2.6%			5	2.6%		
75	5	1.9%			11	5.7%		
76	13	4.9%			21	10.8%		
77	18	6.8%			15	7.7%		
78	10	3.8%			21	10.8%		
79	15	5.7%			21	10.8%		
80	15	5.7%			25	12.9%		
81	7	2.6%			15	7.7%		
82	5	1.9%			11	5.7%		
83	1	0.4%			18	9.3%		
84	4	1.5%			2	1.0%		
85	0	0.0%			3	1.5%		
86	4	1.5%			1	0.5%		
87	2	0.8%			1	0.5%		
88	1	0.4%			2	1.0%		
89	0	0.0%		Age 5	2	1.0%		Age 5
90	0	0.0%	n =	19	0	0.0%	n =	32
91	0	0.0%		7.2%	0	0.0%		16.5%
92	1	0.4%			1	0.5%		
93	0	0.0%			1	0.5%		
94	1	0.4%			1	0.5%		
95	1	0.4%			0	0.0%		
96	1	0.4%			0	0.0%		
97	0	0.0%			0	0.0%		
98	0	0.0%			0	0.0%		
99	1	0.4%			0	0.0%		
100	0	0.0%			0	0.0%		
101	2	0.8%			0	0.0%		
Total	265				194			

[a]Age break criteria from Pahsimeroi Hatchery Run Report 2000.

Appendix B1. Spawning ground survey trend areas where carcass counts were conducted, but no carcasses were sampled by Idaho Department of Fish and Game, Nez Perce Tribe, and Shoshone-Bannock Tribe fisheries personnel, 2000*

Drainage	Stream	Transect
Selway River	Moose Creek	WC-3
	Running Creek	WC-4a
	Eagle Creek	WC-4b
Salmon River (upper)	Valley Creek	NS-3a
Salmon River (lower)	W. Fk. Yankee Fk.	NS-7
	Salmon River	NS-21, 22, 23
M. Fk. Salmon River	Knapp Creek	WS-4
	Big Creek	WS-14a

[a]Transect definitions are available in Appendix C.

Appendix B2. Length frequency and age composition of spring chinook salmon carcasses recovered from Bear Valley Creek (M. Fk. Salmon R.) during spawning ground surveys, 2000. All carcasses were sampled by Idaho Department of Fish and Game personnel*

	Males				Females			
Fork Length (cm)	Total Number Recovered	Percent of Total	Age Class		Total Number Recovered	Percent of Total	Age Class	
47	0	0.0%			0	0.0%		
48	0	0.0%			0	0.0%		
49	0	0.0%			0	0.0%		
50	0	0.0%		Jacks	0	0.0%		Age 3
51	0	0.0%	n =	0	0	0.0%	n =	0
52	0	0.0%		0.0%	0	0.0%		0.0%
53	0	0.0%			0	0.0%		
54	0	0.0%			0	0.0%		
55	0	0.0%			0	0.0%		
56	0	0.0%			0	0.0%		
57	0	0.0%			0	0.0%		
58	0	0.0%			0	0.0%		
59	0	0.0%			0	0.0%		
60	0	0.0%			0	0.0%		
61	0	0.0%			0	0.0%		
62	0	0.0%			0	0.0%		
63	0	0.0%			0	0.0%		
64	0	0.0%			0	0.0%		
65	0	0.0%			0	0.0%		
66	0	0.0%			0	0.0%		
67	0	0.0%		Age 4	0	0.0%		Age 4
68	0	0.0%	n =	3	0	0.0%	n =	6
69	0	0.0%		37.5%	0	0.0%		75.0%
70	0	0.0%			1	12.5%		
71	0	0.0%			0	0.0%		
72	1	12.5%			0	0.0%		
73	0	0.0%			1	12.5%		
74	0	0.0%			0	0.0%		
75	0	0.0%			0	0.0%		
76	1	12.5%			0	0.0%		
77	0	0.0%			0	0.0%		
78	1	12.5%			3	37.5%		
79	0	0.0%			1	12.5%		
					0	0.0%		
80	1	12.5%			0	0.0%		
81	1	12.5%			1	12.5%		
82	0	0.0%			0	0.0%		
83	1	12.5%			0	0.0%		
84	0	0.0%			0	0.0%		
85	0	0.0%			0	0.0%		
86	0	0.0%			0	0.0%		
87	0	0.0%			0	0.0%		
88	1	12.5%			0	0.0%		
89	0	0.0%			0	0.0%		
90	0	0.0%			0	0.0%		
91	1	12.5%			0	0.0%		
92	0	0.0%			0	0.0%		
93	0	0.0%			1	12.5%		
94	0	0.0%			0	0.0%		
95	0	0.0%			0	0.0%		
96	0	0.0%			0	0.0%		
97	0	0.0%			0	0.0%		
98	0	0.0%			0	0.0%		
99	0	0.0%		Age 5	0	0.0%		Age 5
100	0	0.0%	n =	5	0	0.0%	n =	2
101	0	0.0%		62.5%	0	0.0%		25.0%
102	0	0.0%			0	0.0%		
103	0	0.0%			0	0.0%		
104	0	0.0%			0	0.0%		
105	0	0.0%			0	0.0%		
106	0	0.0%			0	0.0%		
107	0	0.0%			0	0.0%		
108	0	0.0%			0	0.0%		
109	0	0.0%			0	0.0%		
110	0	0.0%			0	0.0%		
Total	**8**				**8**			

*Age break criteria from Kiefer et al., 1992.

Appendix B3 Length frequency and age composition of spring chinook salmon carcasses recovered from Elk Creek (Bear Valley Cr.) during spawning ground surveys, 2000*

Males					Females			
Fork Length (cm)	Total Number Recovered	Percent of Total	Age Class		Total Number Recovered	Percent of Total	Age Class	
47	0	0.0%			0	0.0%		
48	0	0.0%			0	0.0%		
49	0	0.0%			0	0.0%		
50	0	0.0%		Jacks	0	0.0%		Age 3
51	0	0.0%	n =	0	0	0.0%	n =	0
52	0	0.0%		0.0%	0	0.0%		0.0%
53	0	0.0%			0	0.0%		
54	0	0.0%			0	0.0%		
55	0	0.0%			0	0.0%		
56	0	0.0%			0	0.0%		
57	0	0.0%			0	0.0%		
58	0	0.0%			0	0.0%		
59	0	0.0%			0	0.0%		
60	0	0.0%			0	0.0%		
61	0	0.0%			0	0.0%		
62	0	0.0%			0	0.0%		
63	0	0.0%			0	0.0%		
64	0	0.0%			0	0.0%		
65	0	0.0%			0	0.0%		
66	0	0.0%			0	0.0%		
67	0	0.0%		Age 4	0	0.0%		Age 4
68	1	6.3%	n =	11	0	0.0%	n =	14
69	0	0.0%		68.8%	0	0.0%		93.3%
70	0	0.0%			1	6.7%		
71	0	0.0%			0	0.0%		
72	1	6.3%			0	0.0%		
73	2	12.5%			0	0.0%		
74	0	0.0%			0	0.0%		
75	0	0.0%			1	6.7%		
76	3	18.8%			1	6.7%		
77	0	0.0%			4	26.7%		
78	1	6.3%			3	20.0%		
79	3	18.8%			4	26.7%		
80	0	0.0%			1	6.7%		
81	1	6.3%			0	0.0%		
82	0	0.0%			0	0.0%		
83	0	0.0%			0	0.0%		
84	2	12.5%			0	0.0%		
85	1	6.3%			0	0.0%		
86	1	6.3%			0	0.0%		
87	0	0.0%		Age 5	0	0.0%		Age 5
88	0	0.0%	n =	5	0	0.0%	n =	1
89	0	0.0%		31.3%	0	0.0%		6.7%
90	0	0.0%			0	0.0%		
91	0	0.0%			0	0.0%		
92	0	0.0%			0	0.0%		
93	0	0.0%			0	0.0%		
94	0	0.0%			0	0.0%		
95	0	0.0%			0	0.0%		
96	0	0.0%			0	0.0%		
97	0	0.0%			0	0.0%		
98	0	0.0%			0	0.0%		
99	0	0.0%			0	0.0%		
100	0	0.0%			0	0.0%		
Total	**16**				**15**			

*Age break criteria from Kiefer et al., 1992.

Appendix B4 Length frequency and age composition of spring chinook salmon carcasses recovered from Cape Horn Creek (Marsh Cr.) during spawning ground surveys, 2000*

Males					Females			
Fork Length (cm)	Total Number Recovered	Percent of Total	Age Class		Total Number Recovered	Percent of Total	Age Class	
47	0	0.0%			0	0.0%		
48	0	0.0%			0	0.0%		
49	0	0.0%			0	0.0%		
50	0	0.0%		Jacks	0	0.0%		Age 3
51	0	0.0%	n =	0	0	0.0%	n =	0
52	0	0.0%		0.0%	0	0.0%		0.0%
53	0	0.0%			0	0.0%		
54	0	0.0%			0	0.0%		
55	0	0.0%			0	0.0%		
56	0	0.0%			0	0.0%		
57	0	0.0%			0	0.0%		
58	0	0.0%			0	0.0%		
59	0	0.0%			0	0.0%		
60	0	0.0%			0	0.0%		
61	0	0.0%			0	0.0%		
62	0	0.0%			0	0.0%		
63	0	0.0%			0	0.0%		
64	0	0.0%			0	0.0%		
65	0	0.0%			0	0.0%		
66	0	0.0%			1	0.0%		
67	0	0.0%		Age 4	0	0.0%		Age 4
68	0	0.0%	n =	0	0	0.0%	n =	2
69	0	0.0%		0.0%	0	0.0%		100.0%
70	0	0.0%			0	0.0%		
71	0	0.0%			1	0.0%		
72	0	0.0%			0	0.0%		
73	0	0.0%			0	0.0%		
74	0	0.0%			0	0.0%		
75	0	0.0%			0	0.0%		
76	0	0.0%			0	0.0%		
77	0	0.0%			0	0.0%		
78	0	0.0%			0	0.0%		
79	0	0.0%			0	0.0%		
80	0	0.0%			0	0.0%		
81	0	0.0%			0	0.0%		
82	0	0.0%			0	0.0%		
83	0	0.0%			0	0.0%		
84	0	0.0%			0	0.0%		
85	0	0.0%			0	0.0%		
86	0	0.0%		Age 5	0	0.0%		Age 5
87	0	0.0%	n =	0	0	0.0%	n =	0
88	0	0.0%		0.0%	0	0.0%		0.0%
89	0	0.0%			0	0.0%		
90	0	0.0%			0	0.0%		
91	0	0.0%			0	0.0%		
92	0	0.0%			0	0.0%		
93	0	0.0%			0	0.0%		
94	0	0.0%			0	0.0%		
95	0	0.0%			0	0.0%		
96	0	0.0%			0	0.0%		
97	0	0.0%			0	0.0%		
98	0	0.0%			0	0.0%		
99	0	0.0%			0	0.0%		
100	0	0.0%			0	0.0%		
Total	**0**				**2**			

*Age break criteria from Kiefer et al., 1992.

Appendix B5. Length frequency and age composition of spring chinook salmon carcasses recovered from Beaver Creek (Marsh Cr.) during spawning ground surveys, 2000*

Males					Females			
Fork Length (cm)	Total Number Recovered	Percent of Total	Age Class		Total Number Recovered	Percent of Total	Age Class	
47	0	0.0%			0	0.0%		
48	0	0.0%			0	0.0%		
49	0	0.0%			0	0.0%		
50	0	0.0%		Jacks	0	0.0%		Age 3
51	0	0.0%	n =	0	0	0.0%	n =	0
52	0	0.0%		0.0%	0	0.0%		0.0%
53	0	0.0%			0	0.0%		
54	0	0.0%			0	0.0%		
55	0	0.0%			0	0.0%		
56	0	0.0%			0	0.0%		
57	0	0.0%			0	0.0%		
58	0	0.0%			0	0.0%		
59	0	0.0%			0	0.0%		
60	0	0.0%			0	0.0%		
61	0	0.0%			0	0.0%		
62	0	0.0%			0	0.0%		
63	0	0.0%			0	0.0%		
64	0	0.0%			0	0.0%		
65	0	0.0%			0	0.0%		
66	0	0.0%			0	0.0%		
67	0	0.0%		Age 4	0	0.0%		Age 4
68	0	0.0%	n =	0	0	0.0%	n =	1
69	0	0.0%		0.0%	0	0.0%		100.0%
70	0	0.0%			0	0.0%		
71	0	0.0%			0	0.0%		
72	0	0.0%			1	0.0%		
73	0	0.0%			0	0.0%		
74	0	0.0%			0	0.0%		
75	0	0.0%			0	0.0%		
76	0	0.0%			0	0.0%		
77	0	0.0%			0	0.0%		
78	0	0.0%			0	0.0%		
79	0	0.0%			0	0.0%		
80	0	0.0%			0	0.0%		
81	0	0.0%			0	0.0%		
82	0	0.0%			0	0.0%		
83	0	0.0%			0	0.0%		
84	0	0.0%			0	0.0%		
85	0	0.0%			0	0.0%		
86	0	0.0%			0	0.0%		
87	0	0.0%		Age 5	0	0.0%		Age 5
88	0	0.0%	n =	0	0	0.0%	n =	0
89	0	0.0%		0.0%	0	0.0%		0.0%
90	0	0.0%			0	0.0%		
91	0	0.0%			0	0.0%		
92	0	0.0%			0	0.0%		
93	0	0.0%			0	0.0%		
94	0	0.0%			0	0.0%		
95	0	0.0%			0	0.0%		
96	0	0.0%			0	0.0%		
97	0	0.0%			0	0.0%		
98	0	0.0%			0	0.0%		
99	0	0.0%			0	0.0%		
100	0	0.0%			0	0.0%		
Total	**0**				**1**			

*Age break criteria from Kiefer et al., 1992.

Appendix B6. Length frequency and age composition of spring chinook salmon carcasses recovered from Marsh Creek (M. Fk. Salmon R.) during spawning ground surveys, 2000*

Males				Females			
Fork Length (cm)	Total Number Recovered	Percent of Total	Age Class	Total Number Recovered	Percent of Total	Age Class	
43	1	0.0%		0	0.0%		
44	0	0.0%		0	0.0%		
45	0	0.0%		0	0.0%		
46	1	0.0%		0	0.0%		
47	0	0.0%		0	0.0%		
48	1	0.0%		0	0.0%		
49	1	0.0%		0	0.0%		
50	0	0.0%	Jacks	0	0.0%		Age 3
51	0	0.0%	n = 6	0	0.0%	n =	0
52	1	0.0%	31.6%	0	0.0%		0.0%
53	0	0.0%		0	0.0%		
54	0	0.0%		0	0.0%		
55	1	0.0%		0	0.0%		
56	0	0.0%		0	0.0%		
57	0	0.0%		0	0.0%		
58	0	0.0%		0	0.0%		
59	0	0.0%		0	0.0%		
60	0	0.0%		0	0.0%		
61	0	0.0%		0	0.0%		
62	0	0.0%		0	0.0%		
63	0	0.0%		0	0.0%		
64	0	0.0%		0	0.0%		
65	0	0.0%		0	0.0%		
66	0	0.0%		0	0.0%		
67	1	0.0%	Age 4	0	0.0%		Age 4
68	0	0.0%	n = 9	0	0.0%	n =	6
69	0	0.0%	47.4%	0	0.0%		100.0%
70	1	0.0%		0	0.0%		
71	0	0.0%		0	0.0%		
72	0	0.0%		1	0.0%		
73	3	0.0%		1	0.0%		
74	0	0.0%		1	0.0%		
75	1	0.0%		0	0.0%		
76	0	0.0%		2	0.0%		
77	1	0.0%		0	0.0%		
78	1	0.0%		0	0.0%		
79	1	0.0%		1	0.0%		
80	0	0.0%		0	0.0%		
81	2	0.0%		0	0.0%		
82	0	0.0%		0	0.0%		
83	0	0.0%		0	0.0%		
84	0	0.0%		0	0.0%		
85	0	0.0%		0	0.0%		
86	0	0.0%	Age 5	0	0.0%		Age 5
87	0	0.0%	n = 4	0	0.0%	n =	0
88	0	0.0%	21.1%	0	0.0%		0.0%
89	1	0.0%		0	0.0%		
90	0	0.0%		0	0.0%		
91	0	0.0%		0	0.0%		
92	0	0.0%		0	0.0%		
93	0	0.0%		0	0.0%		
94	0	0.0%		0	0.0%		
95	1	0.0%		0	0.0%		
96	0	0.0%		0	0.0%		
97	0	0.0%		0	0.0%		
98	0	0.0%		0	0.0%		
99	0	0.0%		0	0.0%		
100	0	0.0%		0	0.0%		
Total	**19**			**6**			

*Age break criteria from Kiefer et al., 1992.

Appendix B7. Length frequency and age composition of spring chinook salmon carcasses recovered from Sulphur Creek (M. Fk. Salmon R.) during spawning ground surveys, 2000*

Males					Females			
Fork Length (cm)	Total Number Recovered	Percent of Total	Age Class		Total Number Recovered	Percent of Total	Age Class	
47	0	0.0%			0	0.0%		
48	0	0.0%			0	0.0%		
49	0	0.0%			0	0.0%		
50	0	0.0%		Jacks	0	0.0%		Age 3
51	0	0.0%	n =	0	0	0.0%	n =	0
52	0	0.0%		0.0%	0	0.0%		0.0%
53	0	0.0%			0	0.0%		
54	0	0.0%			0	0.0%		
55	0	0.0%			0	0.0%		
56	0	0.0%			0	0.0%		
57	0	0.0%			0	0.0%		
58	0	0.0%			0	0.0%		
59	0	0.0%			0	0.0%		
60	0	0.0%			0	0.0%		
61	0	0.0%			0	0.0%		
62	0	0.0%			0	0.0%		
63	0	0.0%			0	0.0%		
64	0	0.0%			0	0.0%		
65	0	0.0%			0	0.0%		
66	0	0.0%			0	0.0%		
67	0	0.0%		Age 4	0	0.0%		Age 4
68	0	0.0%	n =	0	0	0.0%	n =	0
69	0	0.0%		0.0%	0	0.0%		0.0%
70	0	0.0%			0	0.0%		
71	0	0.0%			0	0.0%		
72	0	0.0%			0	0.0%		
73	0	0.0%			0	0.0%		
74	0	0.0%			0	0.0%		
75	0	0.0%			0	0.0%		
76	0	0.0%			0	0.0%		
77	0	0.0%			0	0.0%		
78	0	0.0%			0	0.0%		
79	0	0.0%			0	0.0%		
80	0	0.0%			0	0.0%		
81	0	0.0%			0	0.0%		
82	0	0.0%			0	0.0%		
83	0	0.0%			0	0.0%		
84	0	0.0%			0	0.0%		
85	0	0.0%			0	0.0%		
86	0	0.0%			0	0.0%		
87	0	0.0%		Age 5	0	0.0%		Age 5
88	0	0.0%	n =	0	0	0.0%	n =	1
89	0	0.0%		0.0%	1	100.0%		100.0%
90	0	0.0%			0	0.0%		
91	0	0.0%			0	0.0%		
92	0	0.0%			0	0.0%		
93	0	0.0%			0	0.0%		
94	0	0.0%			0	0.0%		
95	0	0.0%			0	0.0%		
96	0	0.0%			0	0.0%		
97	0	0.0%			0	0.0%		
98	0	0.0%			0	0.0%		
99	0	0.0%			0	0.0%		
100	0	0.0%			0	0.0%		
Total	**0**				**1**			

*Age break criteria from Kiefer et al., 1992.

Appendix B8. Length frequency and age composition of spring chinook salmon carcasses recovered from Crooked River (South Fork Clearwater River drainage) during spawning ground surveys, 2000[ab]

Males					Females			
Fork Length (cm)	Total Number Recovered	Percent of Total	Age Class		Total Number Recovered	Percent of Total	Age Class	
47	1	0.0%			0	0.0%		
48	0	0.0%			0	0.0%		
49	0	0.0%			0	0.0%		
50	2	0.0%			0	0.0%		
51	1	0.0%			0	0.0%		
52	2	0.0%		Jacks	0	0.0%		Age 3
53	1	0.0%	n =	9	0	0.0%	n =	4
54	0	0.0%		23.7%	0	0.0%		18.2%
55	1	0.0%			0	0.0%		
56	1	0.0%			0	0.0%		
57	0	0.0%			0	0.0%		
58	0	0.0%			0	0.0%		
59	0	0.0%			0	0.0%		
60	0	0.0%			0	0.0%		
61	0	0.0%			0	0.0%		
62	0	0.0%			0	0.0%		
63	0	0.0%			0	0.0%		
64	0	0.0%			1	0.0%		
65	0	0.0%			1	0.0%		
66	0	0.0%			0	0.0%		
67	0	0.0%			2	0.0%		
68	1	0.0%			0	0.0%		
69	0	0.0%			2	0.0%		
70	2	0.0%			2	0.0%		
71	2	0.0%			2	0.0%		
72	2	0.0%			6	0.0%		
73	1	0.0%			1	0.0%		
74	2	0.0%			2	0.0%		
75	3	0.0%			1	0.0%		
76	1	0.0%		Age 4	0	0.0%		Age 4
77	2	0.0%	n =	29	0	0.0%	n =	18
78	2	0.0%		76.3%	1	0.0%		81.8%
79	1	0.0%			0	0.0%		
80	5	0.0%			0	0.0%		
81	2	0.0%			0	0.0%		
82	2	0.0%			0	0.0%		
83	0	0.0%			1	0.0%		
84	1	0.0%			0	0.0%		
85	0	0.0%			0	0.0%		
86	0	0.0%			0	0.0%		
87	0	0.0%			0	0.0%		
88	0	0.0%			0	0.0%		
89	0	0.0%			0	0.0%		
90	0	0.0%		Age 5	0	0.0%		Age 5
91	0	0.0%	n =	0	0	0.0%	n =	0
92	0	0.0%		0.0%	0	0.0%		0.0%
93	0	0.0%			0	0.0%		
Total	**38**				**22**			

[a]Age break criteria from Kiefer et al., 1992.
[b]There were 4 male, 1 female, and 3 fish of unknown gender, that had unknown lengths. There were 17 other fish that had only mid-eye-hypural lengths of: (Males) 2@39, 2@41, 1@44, 1@50, 2@53, 1@58, 2@59, (Females) 1@57, 1@58, 1@61, 1@62, 1@63, 1@66.

Appendix B9. Length frequency and age composition of spring chinook salmon carcasses recovered from American River (S. Fk. Clearwater R.) during spawning ground surveys, 2000[ab]

Males				Females			
Fork Length (cm)	Total Number Recovered	Percent of Total	Age Class	Total Number Recovered	Percent of Total	Age Class	
47	1	0.0%		0	0.0%		
48	3	0.0%		0	0.0%		
49	4	0.0%		0	0.0%		
50	0	0.0%	Jacks	0	0.0%	Age 3	
51	4	0.0%	n = 27	0	0.0%	n = 0	
52	3	0.0%	0.0%	0	0.0%	0.0%	
53	2	0.0%		0	0.0%		
54	3	0.0%		0	0.0%		
55	0	0.0%		0	0.0%		
56	2	0.0%		0	0.0%		
57	0	0.0%		0	0.0%		
58	1	0.0%		0	0.0%		
59	4	0.0%		0	0.0%		
60	0	0.0%		0	0.0%		
61	0	0.0%		0	0.0%		
62	0	0.0%		1	0.0%		
63	0	0.0%		0	0.0%		
64	0	0.0%		2	0.0%		
65	0	0.0%		4	0.0%		
66	0	0.0%		0	0.0%		
67	0	0.0%	Age 4	5	0.0%	Age 4	
68	2	0.0%	n = 36	3	0.0%	n = 56	
69	0	0.0%	0.0%	13	0.0%	0.0%	
70	2	0.0%		8	0.0%		
71	1	0.0%		5	0.0%		
72	3	0.0%		5	0.0%		
73	2	0.0%		2	0.0%		
74	5	0.0%		1	0.0%		
75	4	0.0%		4	0.0%		
76	5	0.0%		2	0.0%		
77	3	0.0%		1	0.0%		
78	4	0.0%		0	0.0%		
79	5	0.0%		0	0.0%		
80	1	0.0%		1	0.0%		
81	1	0.0%		0	0.0%		
82	0	0.0%		0	0.0%		
83	1	0.0%		0	0.0%		
84	1	0.0%		0	0.0%		
85	0	0.0%		0	0.0%		
86	0	0.0%	Age 5	0	0.0%	Age 5	
87	0	0.0%	n = 4	0	0.0%	n = 1	
88	0	0.0%	0.0%	0	0.0%	0.0%	
89	0	0.0%		0	0.0%		
90	0	0.0%		0	0.0%		
91	0	0.0%		0	0.0%		
92	0	0.0%		0	0.0%		
93	0	0.0%		0	0.0%		
94	0	0.0%		0	0.0%		
95	0	0.0%		0	0.0%		
96	0	0.0%		0	0.0%		
97	0	0.0%		0	0.0%		
98	0	0.0%		0	0.0%		
99	0	0.0%		0	0.0%		
100	0	0.0%		0	0.0%		
Total	**67**			**57**			

[a]Age break criteria from Kiefer et al., 1992.
bThere were 1 male and 3 female fish of unknown gender, that had unknown lengths. There were 3 other fish that had only mid-eye-hypural lengths of: (Males) 1@40, (Females) 1@55, 1@57.

Appendix B10. Length frequency and age composition of spring chinook salmon carcasses recovered from Red River (South Fork Clearwater River drainage) during spawning ground surveys, 2000*

Males					Females			
Fork Length (cm)	Total Number Recovered	Percent of Total	Age Class		Total Number Recovered	Percent of Total	Age Class	
36	1	0.0%			0	0.0%		
37	0	0.0%			0	0.0%		
38	0	0.0%			0	0.0%		
39	0	0.0%			0	0.0%		
40	0	0.0%			0	0.0%		
41	0	0.0%			0	0.0%		
42	0	0.0%			0	0.0%		
43	0	0.0%			0	0.0%		
44	0	0.0%			0	0.0%		
45	2	0.0%			0	0.0%		
46	1	0.0%			0	0.0%		
47	1	0.0%			0	0.0%		
48	4	0.0%			0	0.0%		
49	1	0.0%			0	0.0%		
50	2	0.0%			0	0.0%		
51	2	0.0%			0	0.0%		
52	5	0.0%		Jacks	0	0.0%		Age 3
53	1	0.0%	n =	23	0	0.0%	n =	16
54	2	0.0%		39.0%	0	0.0%		20.8%
55	1	0.0%			0	0.0%		
56	0	0.0%			0	0.0%		
57	0	0.0%			0	0.0%		
58	0	0.0%			0	0.0%		
59	0	0.0%			0	0.0%		
60	0	0.0%			1	0.0%		
61	0	0.0%			1	0.0%		
62	0	0.0%			1	0.0%		
63	0	0.0%			2	0.0%		
64	1	0.0%			0	0.0%		
65	0	0.0%			5	0.0%		
66	0	0.0%			2	0.0%		
67	0	0.0%			4	0.0%		
68	0	0.0%			7	0.0%		
69	2	0.0%			6	0.0%		
70	1	0.0%			10	0.0%		
71	4	0.0%			3	0.0%		
72	1	0.0%			5	0.0%		
73	2	0.0%			11	0.0%		
74	3	0.0%			5	0.0%		
75	4	0.0%			7	0.0%		
76	3	0.0%		Age 4	0	0.0%		Age 4
77	3	0.0%	n =	35	1	0.0%	n =	61
78	3	0.0%		59.3%	4	0.0%		79.2%
79	2	0.0%			0	0.0%		
80	2	0.0%			1	0.0%		
81	0	0.0%			0	0.0%		
82	3	0.0%			1	0.0%		
83	2	0.0%			0	0.0%		
84	0	0.0%			0	0.0%		
85	0	0.0%			0	0.0%		
86	0	0.0%			0	0.0%		
87	0	0.0%			0	0.0%		
88	0	0.0%			0	0.0%		
89	0	0.0%			0	0.0%		
90	0	0.0%			0	0.0%		
91	0	0.0%			0	0.0%		
92	0	0.0%			0	0.0%		
93	0	0.0%			0	0.0%		
94	0	0.0%			0	0.0%		
95	0	0.0%			0	0.0%		
96	0	0.0%		Age 5	0	0.0%		Age 5
97	0	0.0%	n =	1	0	0.0%	n =	0
98	0	0.0%		1.7%	0	0.0%		0.0%
99	1	0.0%			0	0.0%		
100	0	0.0%			0	0.0%		
Total	**59**				**77**			

[a]Age break criteria from Kiefer et al., 1992.
[b]There were 3 male, 1 female, and 2 fish of unknown gender, that had unknown lengths.

Appendix B11. Length frequency and age composition of spring chinook salmon carcasses recovered from Crooked Fork Creek (Lochsa River drainage) during spawning ground surveys, 2000*

Males				Females			
Fork Length (cm)	Total Number Recovered	Percent of Total	Age Class	Total Number Recovered	Percent of Total	Age Class	
44	0	0.0%		0	0.0%		
45	0	0.0%		0	0.0%		
46	0	0.0%		0	0.0%		
47	0	0.0%		0	0.0%		
48	2	0.0%		0	0.0%		
49	1	0.0%		0	0.0%		
50	0	0.0%		0	0.0%		
51	2	0.0%		0	0.0%		
52	2	0.0%	Jacks	0	0.0%		Age 3
53	0	0.0%	n = 11	0	0.0%	n =	0
54	0	0.0%	20.8%	0	0.0%		0.0%
55	0	0.0%		0	0.0%		
56	1	0.0%		0	0.0%		
57	0	0.0%		0	0.0%		
58	0	0.0%		0	0.0%		
59	1	0.0%		0	0.0%		
60	1	0.0%		0	0.0%		
61	0	0.0%		0	0.0%		
62	0	0.0%		0	0.0%		
63	0	0.0%		0	0.0%		
64	0	0.0%		0	0.0%		
65	0	0.0%		0	0.0%		
66	0	0.0%		0	0.0%		
67	1	0.0%		0	0.0%		
68	0	0.0%		0	0.0%		
69	0	0.0%		2	0.0%		
70	0	0.0%		3	0.0%		
71	2	0.0%		3	0.0%		
72	2	0.0%		4	0.0%		
73	0	0.0%		5	0.0%		
74	2	0.0%		3	0.0%		
75	2	0.0%		8	0.0%		
76	7	0.0%	Age 4	8	0.0%		Age 4
77	4	0.0%	n = 40	8	0.0%	n =	52
78	4	0.0%	75.5%	3	0.0%		98.1%
79	2	0.0%		2	0.0%		
80	7	0.0%		0	0.0%		
81	0	0.0%		1	0.0%		
82	1	0.0%		1	0.0%		
83	1	0.0%		1	0.0%		
84	2	0.0%		0	0.0%		
85	3	0.0%		0	0.0%		
86	0	0.0%		0	0.0%		
87	0	0.0%		0	0.0%		
88	1	0.0%		0	0.0%		
89	0	0.0%		0	0.0%		
90	1	0.0%		0	0.0%		
91	0	0.0%		1	0.0%		
92	1	0.0%		0	0.0%		
93	0	0.0%		0	0.0%		
94	0	0.0%		0	0.0%		
95	0	0.0%		0	0.0%		
96	0	0.0%	Age 5	0	0.0%		Age 5
97	0	0.0%	n = 2	0	0.0%	n =	1
98	0	0.0%	3.8%	0	0.0%		1.9%
99	0	0.0%		0	0.0%		
100	0	0.0%		0	0.0%		
101	0	0.0%		0	0.0%		
102	0	0.0%		0	0.0%		
103	0	0.0%		0	0.0%		
104	0	0.0%		0	0.0%		
105	0	0.0%		0	0.0%		
Total	**53**			**53**			

[a]Age break criteria from Kiefer et al., 1992.

[b]There was 1 decomposed female that had an unknown fork length but a mid-eye hypural length c
58 cm.

Appendix B12. Length frequency and age composition of spring chinook salmon carcasses recovered from Brushy Fork Creek (Lochsa River drainage) during spawning ground surveys, 2000*

Males					Females			
Fork Length (cm)	Total Number Recovered	Percent of Total	Age Class		Total Number Recovered	Percent of Total	Age Class	
47	0	0.0%			0	0.0%		
48	0	0.0%			0	0.0%		
49	0	0.0%			0	0.0%		
50	0	0.0%		Jacks	0	0.0%		Age 3
51	0	0.0%	n =	0	0	0.0%	n =	1
52	0	0.0%		0.0%	0	0.0%		33.3%
53	0	0.0%			0	0.0%		
54	0	0.0%			0	0.0%		
55	0	0.0%			0	0.0%		
56	0	0.0%			0	0.0%		
57	0	0.0%			0	0.0%		
58	0	0.0%			0	0.0%		
59	0	0.0%			0	0.0%		
60	0	0.0%			1	0.0%		
61	0	0.0%			0	0.0%		
62	0	0.0%			0	0.0%		
63	0	0.0%			0	0.0%		
64	0	0.0%			0	0.0%		
65	0	0.0%			0	0.0%		
66	0	0.0%			0	0.0%		
67	0	0.0%		Age 4	0	0.0%		Age 4
68	0	0.0%	n =	0	0	0.0%	n =	2
69	0	0.0%		0.0%	0	0.0%		66.7%
70	0	0.0%			1	0.0%		
71	0	0.0%			0	0.0%		
72	0	0.0%			0	0.0%		
73	0	0.0%			0	0.0%		
74	0	0.0%			0	0.0%		
75	0	0.0%			0	0.0%		
76	0	0.0%			0	0.0%		
77	0	0.0%			1	0.0%		
78	0	0.0%			0	0.0%		
79	0	0.0%			0	0.0%		
80	0	0.0%			0	0.0%		
81	0	0.0%			0	0.0%		
82	0	0.0%			0	0.0%		
83	0	0.0%			0	0.0%		
84	0	0.0%			0	0.0%		
85	0	0.0%			0	0.0%		
86	0	0.0%			0	0.0%		
87	0	0.0%			0	0.0%		
88	0	0.0%			0	0.0%		
89	0	0.0%			0	0.0%		
90	0	0.0%			0	0.0%		
91	0	0.0%			0	0.0%		
92	0	0.0%			0	0.0%		
93	0	0.0%			0	0.0%		
94	0	0.0%			0	0.0%		
95	0	0.0%			0	0.0%		
96	0	0.0%			0	0.0%		
97	0	0.0%			0	0.0%		
98	0	0.0%			0	0.0%		
99	0	0.0%		Age 5	0	0.0%		Age 5
100	0	0.0%	n =	0	0	0.0%	n =	0
101	0	0.0%		0.0%	0	0.0%		0.0%
102	0	0.0%			0	0.0%		
103	0	0.0%			0	0.0%		
104	0	0.0%			0	0.0%		
105	0	0.0%			0	0.0%		
106	0	0.0%			0	0.0%		
107	0	0.0%			0	0.0%		
108	0	0.0%			0	0.0%		
109	0	0.0%			0	0.0%		
110	0	0.0%			0	0.0%		
Total	**0**				**3**			

[a]Age break criteria from Kiefer et al., 1992.

Appendix B13. Length frequency and age composition of spring chinook salmon carcasses recovered from South Fork Salmon River during spawning ground surveys, 2000. The data was collected by IDFG and Nez Perce Tribe personnel*

Males					Females			
Fork Length (cm)	Total Number Recovered	Percent of Total	Age Class		Total Number Recovered	Percent of Total	Age Class	
44	2	0.0%			0	0.0%		
45	0	0.0%			0	0.0%		
46	1	0.0%			0	0.0%		
47	1	0.0%			0	0.0%		
48	4	0.0%			0	0.0%		
49	5	0.0%			0	0.0%		
50	12	0.0%			0	0.0%		
51	5	0.0%			0	0.0%		
52	15	0.0%		Jacks	0	0.0%		Age 3
53	14	0.0%	n =	209	0	0.0%	n =	1
54	20	0.0%		50.9%	0	0.0%		0.3%
55	17	0.0%			0	0.0%		
56	16	0.0%			0	0.0%		
57	19	0.0%			0	0.0%		
58	9	0.0%			0	0.0%		
59	10	0.0%			0	0.0%		
60	14	0.0%			0	0.0%		
61	15	0.0%			0	0.0%		
62	9	0.0%			0	0.0%		
63	9	0.0%			0	0.0%		
64	4	0.0%			0	0.0%		
65	5	0.0%			0	0.0%		
66	1	0.0%			1	0.0%		
67	2	0.0%			0	0.0%		
68	0	0.0%			0	0.0%		
69	1	0.0%			2	0.0%		
70	0	0.0%			0	0.0%		
71	0	0.0%			5	0.0%		
72	9	0.0%			11	0.0%		
73	1	0.0%			9	0.0%		
74	7	0.0%			16	0.0%		
75	13	0.0%			25	0.0%		
76	15	0.0%		Age 4	28	0.0%		Age 4
77	7	0.0%	n =	191	35	0.0%	n =	293
78	18	0.0%		46.5%	41	0.0%		97.0%
79	14	0.0%			28	0.0%		
80	18	0.0%			29	0.0%		
81	20	0.0%			25	0.0%		
82	13	0.0%			14	0.0%		
83	16	0.0%			9	0.0%		
84	12	0.0%			3	0.0%		
85	16	0.0%			6	0.0%		
86	5	0.0%			2	0.0%		
87	2	0.0%			3	0.0%		
88	2	0.0%			1	0.0%		
89	2	0.0%			1	0.0%		
90	1	0.0%			2	0.0%		
91	3	0.0%			0	0.0%		
92	0	0.0%			3	0.0%		
93	1	0.0%			0	0.0%		
94	0	0.0%			0	0.0%		
95	0	0.0%			1	0.0%		
96	0	0.0%		Age 5	0	0.0%		Age 5
97	0	0.0%	n =	11	1	0.0%	n =	8
98	0	0.0%		2.7%	1	0.0%		2.6%
99	0	0.0%			0	0.0%		
100	2	0.0%			0	0.0%		
101	0	0.0%			0	0.0%		
102	2	0.0%			0	0.0%		
103	0	0.0%			0	0.0%		
104	0	0.0%			0	0.0%		
105	2	0.0%			0	0.0%		
Total	**411**				**302**			

[a]Age break criteria from Kiefer et al., 1992.
[b]There were 16 male, 8 female, and 8 fish of unknown gender, that had unknown lengths.

Appendix B14. Length frequency and age composition of spring chinook salmon carcasses recovered from Lake Creek (South Fork Salmon River drainage) during spawning ground surveys, 2000*. The data was collected by IDFG and Nez Perce Tribe

Males					Females				
Fork Length (cm)	Total Number Recovered	Percent of Total	Age Class		Total Number Recovered	Percent of Total	Age Class	
44	0	0.0%			0	0.0%		
45	0	0.0%			0	0.0%		
46	0	0.0%			0	0.0%		
47	0	0.0%			0	0.0%		
48	0	0.0%			0	0.0%		
49	0	0.0%			0	0.0%		
50	1	0.0%			0	0.0%		
51	1	0.0%			0	0.0%		
52	1	0.0%		Jacks	0	0.0%		Age 3
53	0	0.0%	n =	11	0	0.0%	n =	0
54	1	0.0%		11.5%	0	0.0%		0.0%
55	2	0.0%			0	0.0%		
56	0	0.0%			0	0.0%		
57	1	0.0%			0	0.0%		
58	1	0.0%			0	0.0%		
59	0	0.0%			0	0.0%		
60	0	0.0%			0	0.0%		
61	2	0.0%			0	0.0%		
62	0	0.0%			0	0.0%		
63	0	0.0%			0	0.0%		
64	1	0.0%			0	0.0%		
65	0	0.0%			0	0.0%		
66	0	0.0%			0	0.0%		
67	0	0.0%			0	0.0%		
68	0	0.0%			0	0.0%		
69	0	0.0%			0	0.0%		
70	0	0.0%			0	0.0%		
71	0	0.0%			2	0.0%		
72	1	0.0%			0	0.0%		
73	2	0.0%			1	0.0%		
74	1	0.0%			5	0.0%		
75	2	0.0%			9	0.0%		
76	3	0.0%		Age 4	9	0.0%		Age 4
77	9	0.0%	n =	84	16	0.0%	n =	77
78	9	0.0%		87.5%	5	0.0%		97.5%
79	7	0.0%			6	0.0%		
80	10	0.0%			12	0.0%		
81	7	0.0%			3	0.0%		
82	6	0.0%			5	0.0%		
83	9	0.0%			0	0.0%		
84	8	0.0%			2	0.0%		
85	3	0.0%			2	0.0%		
86	5	0.0%			0	0.0%		
87	1	0.0%			0	0.0%		
88	1	0.0%			0	0.0%		
89	0	0.0%			0	0.0%		
90	0	0.0%			0	0.0%		
91	0	0.0%			0	0.0%		
92	1	0.0%			1	0.0%		
93	0	0.0%			0	0.0%		
94	0	0.0%			0	0.0%		
95	0	0.0%			0	0.0%		
96	0	0.0%		Age 5	0	0.0%		Age 5
97	0	0.0%	n =	1	1	0.0%	n =	2
98	0	0.0%		1.0%	0	0.0%		2.5%
99	0	0.0%			0	0.0%		
100	0	0.0%			0	0.0%		
101	0	0.0%			0	0.0%		
102	0	0.0%			0	0.0%		
103	0	0.0%			0	0.0%		
104	0	0.0%			0	0.0%		
105	0	0.0%			0	0.0%		
Total	**96**				**79**			

[a]Age break criteria from Kiefer et al., 1992.
[b]There were 3 female, and 19 fish of unknown gender, that had unknown lengths.

Appendix B15. Length frequency and age composition of spring chinook salmon carcasses recovered from Secesh River (South Fork Salmon River drainage) during spawning ground surveys, 2000*. The data was collected by IDFG and Nez Perce Tribe

Males				Females			
Fork Length (cm)	Total Number Recovered	Percent of Total	Age Class	Total Number Recovered	Percent of Total	Age Class	
44	0	0.0%		0	0.0%		
45	0	0.0%		0	0.0%		
46	0	0.0%		0	0.0%		
47	0	0.0%		0	0.0%		
48	0	0.0%		0	0.0%		
49	0	0.0%		0	0.0%		
50	0	0.0%		0	0.0%		
51	0	0.0%		0	0.0%		
52	0	0.0%	Jacks	0	0.0%	Age 3	
53	0	0.0%	n = 6	0	0.0%	n = 1	
54	2	0.0%	21.4%	0	0.0%	4.0%	
55	0	0.0%		0	0.0%		
56	0	0.0%		0	0.0%		
57	0	0.0%		0	0.0%		
58	0	0.0%		0	0.0%		
59	2	0.0%		0	0.0%		
60	0	0.0%		0	0.0%		
61	1	0.0%		0	0.0%		
62	1	0.0%		0	0.0%		
63	0	0.0%		1	0.0%		
64	0	0.0%		0	0.0%		
65	0	0.0%		0	0.0%		
66	0	0.0%		0	0.0%		
67	0	0.0%		0	0.0%		
68	0	0.0%		0	0.0%		
69	1	0.0%		0	0.0%		
70	0	0.0%		0	0.0%		
71	0	0.0%		0	0.0%		
72	0	0.0%		0	0.0%		
73	0	0.0%		1	0.0%		
74	0	0.0%		0	0.0%		
75	0	0.0%		3	0.0%		
76	1	0.0%	Age 4	2	0.0%	Age 4	
77	1	0.0%	n = 21	3	0.0%	n = 24	
78	0	0.0%	75.0%	4	0.0%	96.0%	
79	0	0.0%		6	0.0%		
80	4	0.0%		2	0.0%		
81	2	0.0%		1	0.0%		
82	1	0.0%		1	0.0%		
83	2	0.0%		1	0.0%		
84	1	0.0%		0	0.0%		
85	2	0.0%		0	0.0%		
86	2	0.0%		0	0.0%		
87	1	0.0%		0	0.0%		
88	1	0.0%		0	0.0%		
89	2	0.0%		0	0.0%		
90	0	0.0%		0	0.0%		
91	0	0.0%		0	0.0%		
92	0	0.0%		0	0.0%		
93	0	0.0%		0	0.0%		
94	0	0.0%		0	0.0%		
95	0	0.0%		0	0.0%		
96	0	0.0%	Age 5	0	0.0%	Age 5	
97	1	0.0%	n = 1	0	0.0%	n = 0	
98	0	0.0%	3.6%	0	0.0%	0.0%	
99	0	0.0%		0	0.0%		
100	0	0.0%		0	0.0%		
101	0	0.0%		0	0.0%		
102	0	0.0%		0	0.0%		
103	0	0.0%		0	0.0%		
104	0	0.0%		0	0.0%		
105	0	0.0%		0	0.0%		
Total	**28**			**25**			

[a]Age break criteria from Kiefer et al., 1992.
[b]There were 19 fish of unknown gender, that had unknown lengths.

Appendix B16. Length frequency and age composition of spring chinook salmon carcasses recovered from Johnson Creek (South Fork Clearwater River drainage) during spawning ground surveys, 2000*. The data was collected by IDFG and Nez Perce Tribe

Males					Females				
Fork Length (cm)	Total Number Recovered	Percent of Total	Age Class		Total Number Recovered	Percent of Total	Age Class	
42	1	0.0%			0	0.0%		
43	0	0.0%			0	0.0%		
44	0	0.0%			0	0.0%		
45	0	0.0%			0	0.0%		
46	2	0.0%			0	0.0%		
47	2	0.0%			0	0.0%		
48	0	0.0%			0	0.0%		
49	0	0.0%			0	0.0%		
50	0	0.0%			0	0.0%		
51	2	0.0%			0	0.0%		
52	0	0.0%		Jacks	0	0.0%		Age 3
53	1	0.0%	n =	10	0	0.0%	n =	0
54	1	0.0%		47.6%	0	0.0%		0.0%
55	0	0.0%			0	0.0%		
56	0	0.0%			0	0.0%		
57	0	0.0%			0	0.0%		
58	1	0.0%			0	0.0%		
59	0	0.0%			0	0.0%		
60	0	0.0%			0	0.0%		
61	0	0.0%			0	0.0%		
62	0	0.0%			0	0.0%		
63	0	0.0%			0	0.0%		
64	0	0.0%			0	0.0%		
65	0	0.0%			0	0.0%		
66	0	0.0%			0	0.0%		
67	0	0.0%			0	0.0%		
68	0	0.0%			0	0.0%		
69	0	0.0%			1	0.0%		
70	0	0.0%			0	0.0%		
71	0	0.0%			0	0.0%		
72	2	0.0%			1	0.0%		
73	0	0.0%			2	0.0%		
74	3	0.0%			2	0.0%		
75	3	0.0%			1	0.0%		
76	1	0.0%		Age 4	1	0.0%		Age 4
77	1	0.0%	n =	11	1	0.0%	n =	14
78	0	0.0%		52.4%	0	0.0%		93.3%
79	0	0.0%			1	0.0%		
80	1	0.0%			1	0.0%		
81	0	0.0%			0	0.0%		
82	0	0.0%			1	0.0%		
83	0	0.0%			2	0.0%		
84	0	0.0%			0	0.0%		
85	0	0.0%			0	0.0%		
86	0	0.0%			0	0.0%		
87	0	0.0%			0	0.0%		
88	0	0.0%			0	0.0%		
89	0	0.0%			0	0.0%		
90	0	0.0%			0	0.0%		
91	0	0.0%			0	0.0%		
92	0	0.0%			0	0.0%		
93	0	0.0%			0	0.0%		
94	0	0.0%			0	0.0%		
95	0	0.0%			0	0.0%		
96	0	0.0%		Age 5	1	0.0%		Age 5
97	0	0.0%	n =	0	0	0.0%	n =	1
98	0	0.0%		0.0%	0	0.0%		6.7%
99	0	0.0%			0	0.0%		
100	0	0.0%			0	0.0%		
101	0	0.0%			0	0.0%		
102	0	0.0%			0	0.0%		
103	0	0.0%			0	0.0%		
104	0	0.0%			0	0.0%		
105	0	0.0%			0	0.0%		
Total	**21**				**15**			

[a]Age break criteria from Kiefer et al., 1992.
[b]There were 2 male that had unknown lengths.

Appendix C. Maps showing 2000 chinook salmon redd count transects and numbers of redds counted

LEGEND

Transect Boundaries	
Ground Redd Counts	
Helicopter Redd Counts	
Road	
Trail	
Forest Service Station	
Campground	
Road or Highway Bridge	
Pack Bridge	
Ford	
Transect Codes	[WS-##], [NS-##], [WC-##], etc.
Dam, Weir or Diversion	

DRAINAGE Salmon River

STREAM Alturas Lake Creek/Pole Creek

OBSERVATION CONDITIONS Good

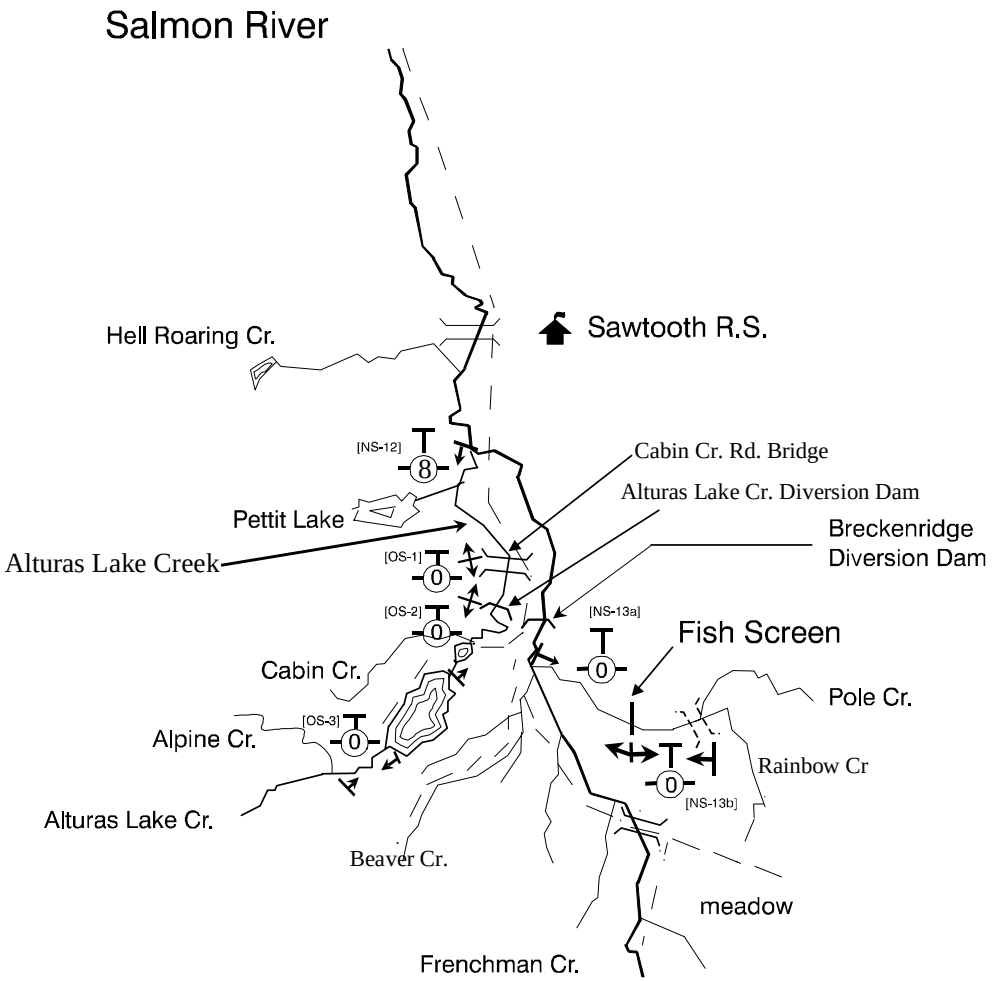
TIMING Early On Time Late

SURVEY DATE 8/31/2000

MAP SCALE 0.78 cm = 1 mile

OBSERVER Gadwa, Meyer, Schoby

REMARKS Helicopter



DRAINAGE Salmon River

STREAM Upper Salmon River

OBSERVATION CONDITIONS Good

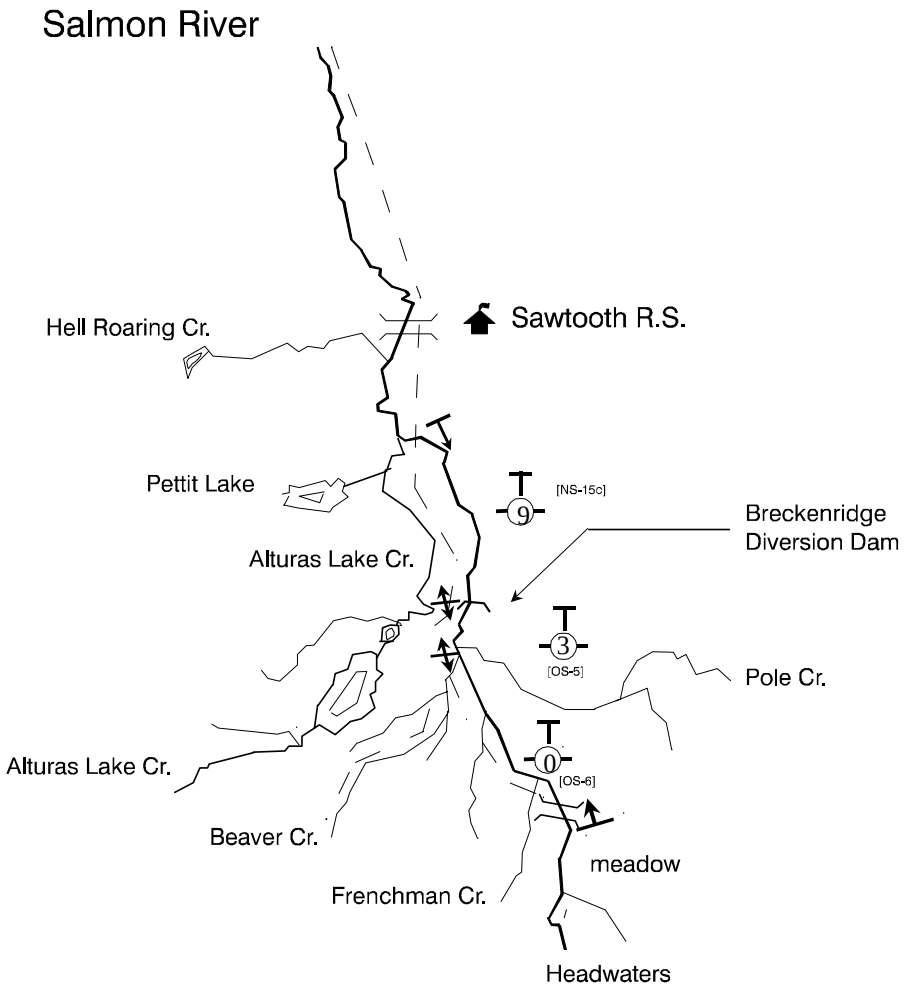
TIMING Early On Time Late

SURVEY DATE 8/31/2000

MAP SCALE 0.78 cm = 1 mile

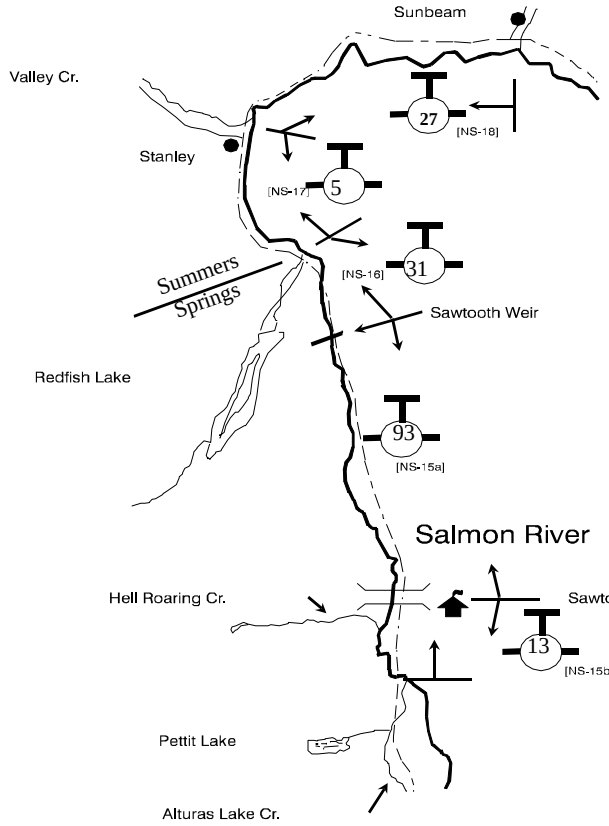
OBSERVER Gadwa, Meyer, Schoby

REMARKS Helicopter



DRAINAGE Salmon River
STREAM Salmon River
OBSERVATION CONDITIONS Poor
TIMING Early On Time Late

SURVEY DATE 8/31/2000
MAP SCALE 0.78 cm = 1 mile
OBSERVER Curet, Gadwa, Schoby
REMARKS Helicopter



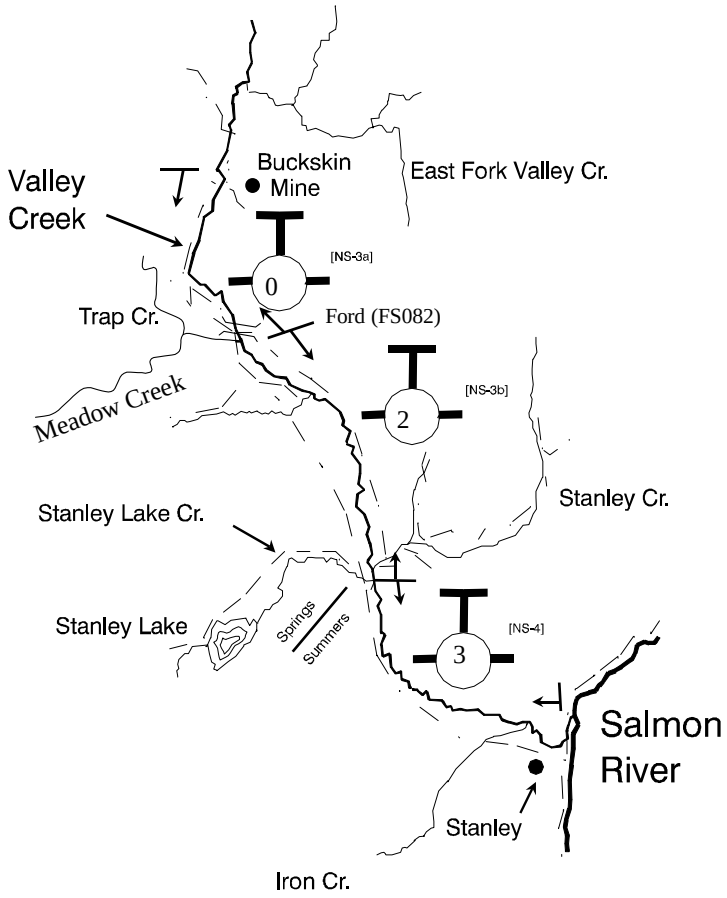
Number of Spring Chinook released above Sawtooth Weir:

Males	279
Jacks	78
Females	159

Total Released: 516
Total Trap Count: 986

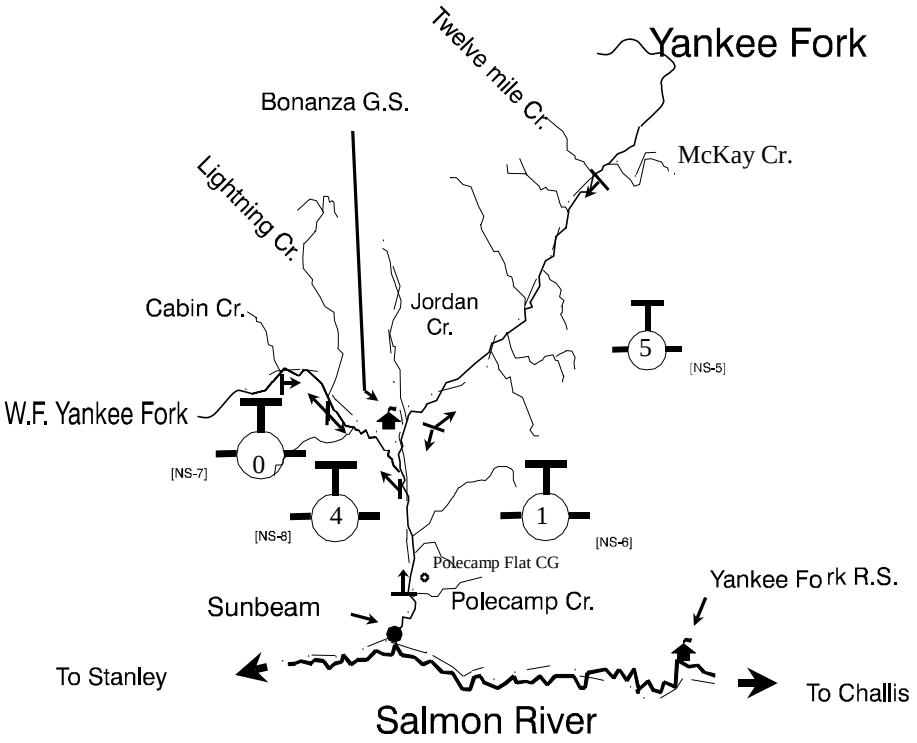
DRAINAGE Salmon River
STREAM Valley Creek
OBSERVATION CONDITIONS Good
TIMING Early On Time Late

SURVEY DATE 8/31/2000
MAP SCALE 1.6 cm = 1 mile
OBSERVER Gadwa, Meyer, Schoby
REMARKS Helicopter



DRAINAGE Salmon River
STREAM Yankee Fork
OBSERVATION CONDITIONS Poor
TIMING Early On Time Late

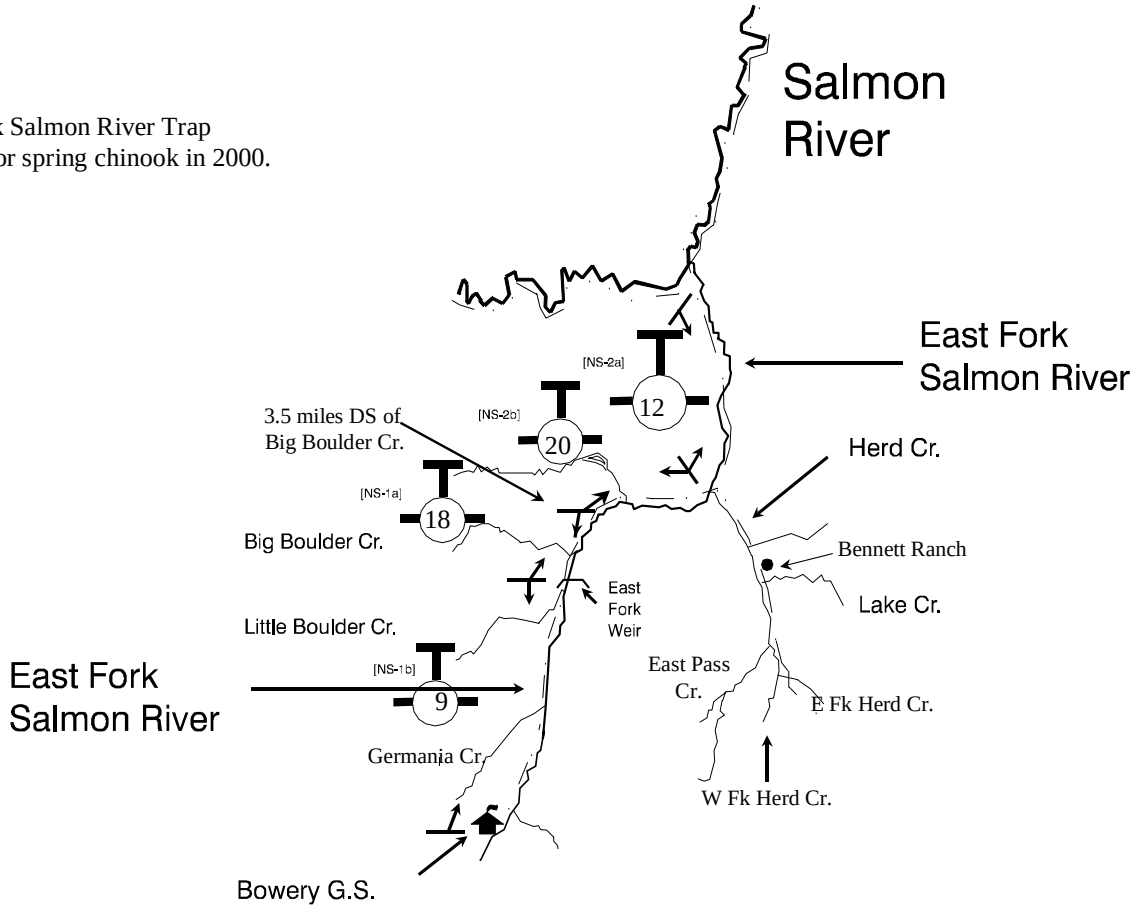
SURVEY DATE 8/31/2000
MAP SCALE 0.70 cm = 1 mile
OBSERVER Curet, Meyer, Schoby
REMARKS Helicopter



DRAINAGE Salmon River
STREAM East Fork Salmon River
OBSERVATION CONDITIONS Poor
TIMING Early On Time Late

SURVEY DATE 8/31/2000
MAP SCALE 0.6 cm 1 = mile
OBSERVER Curet, Meyer, Schoby
REMARKS Helicopter

The East Fork Salmon River Trap was not operated for spring chinook in 2000.



DRAINAGE Salmon River

STREAM Salmon River

OBSERVATION CONDITIONS Poor/Moderate

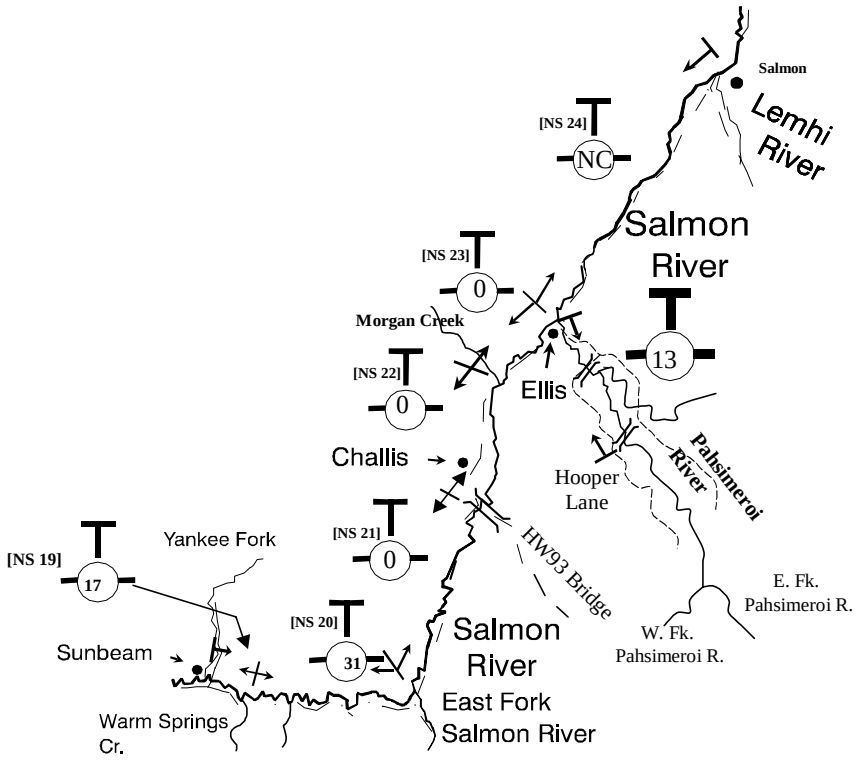
TIMING Early On Time Late

SURVEY DATE 8/31/2000

MAP SCALE 0.35 cm = 1 mile

OBSERVER Curet, Meyer, Schoby

REMARKS Helicopter



DRAINAGE Salmon River

STREAM Lemhi River

OBSERVATION CONDITIONS Good

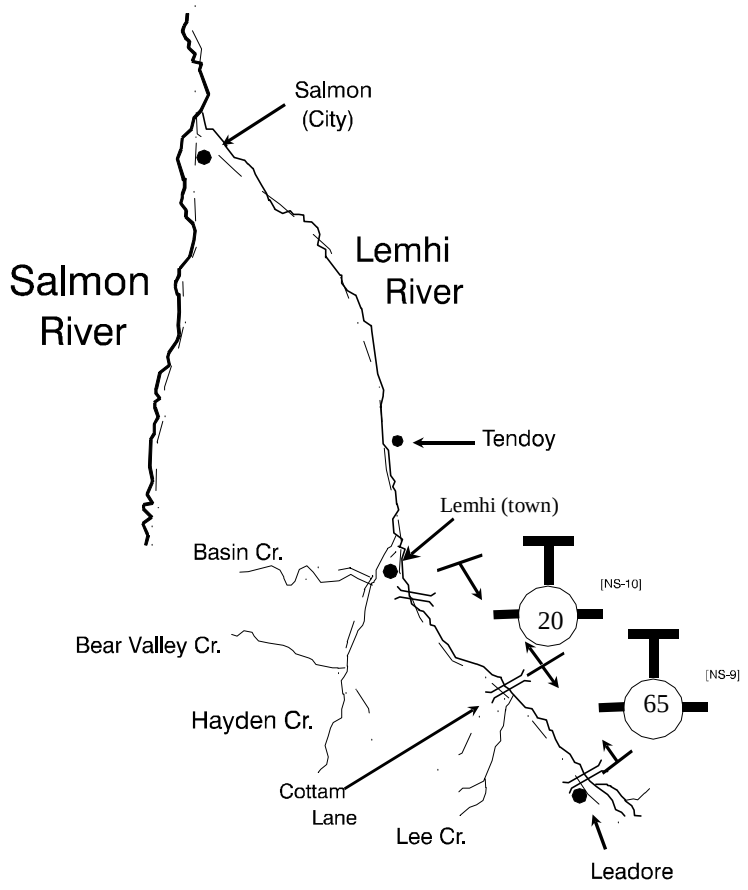
TIMING Early On Time Late

SURVEY DATE 9/1/2000

MAP SCALE 0.40 cm = 1 mile

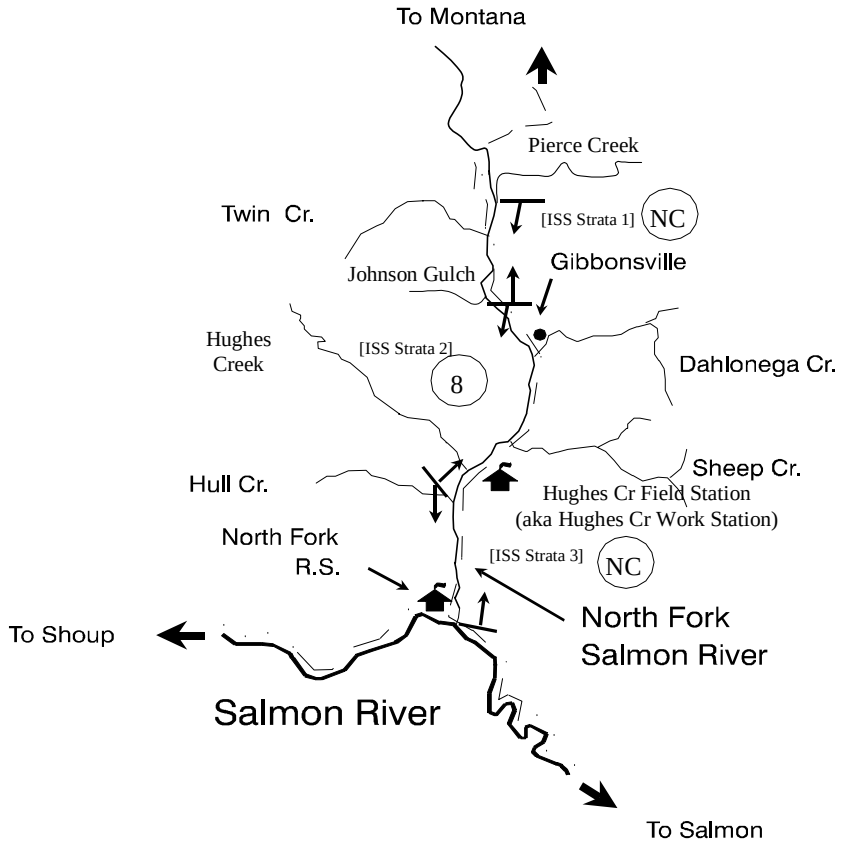
OBSERVER Schoby, Sager, Armbruster

REMARKS Helicopter



DRAINAGE Salmon River
STREAM North Fork Salmon River
OBSERVATION CONDITIONS Good
TIMING Early On Time Late

SURVEY DATE 9/14/2000
MAP SCALE 0.6 cm = 1 mile
OBSERVER Brimmer
REMARKS Helicopter



DRAINAGE Salmon River

STREAM Chamberlain Cr., W. Fk. Chamberlain Cr.

OBSERVATION CONDITIONS

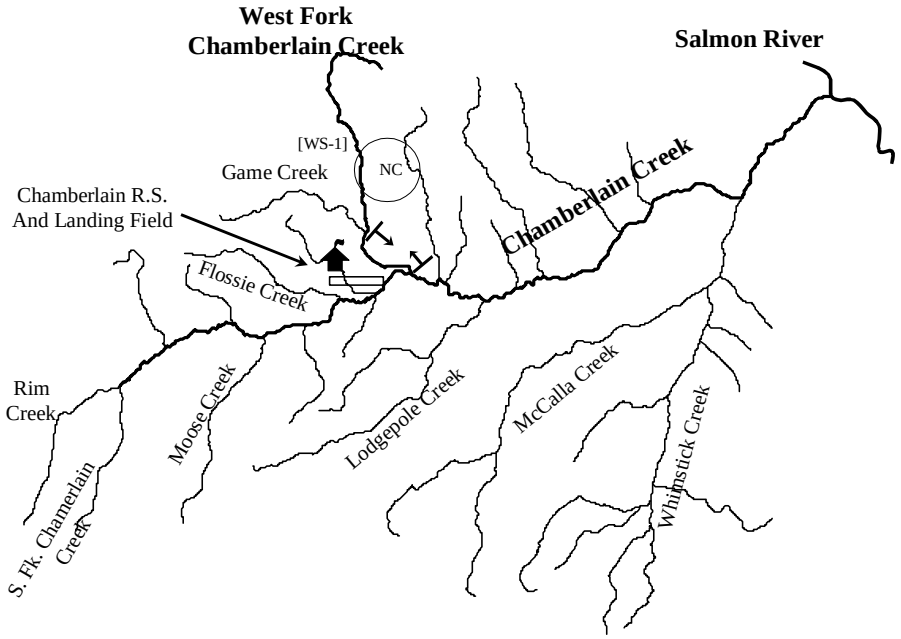
TIMING Early On Time Late

SURVEY DATE Not counted due to forest fires

MAP SCALE 0.42 cm = 1 mile

OBSERVER

REMARKS Helicopter



DRAINAGE Middle Fork Salmon River

STREAM Marsh,Beaver,Knapp,and Capehorn Creeks

OBSERVATION CONDITIONS Excellent

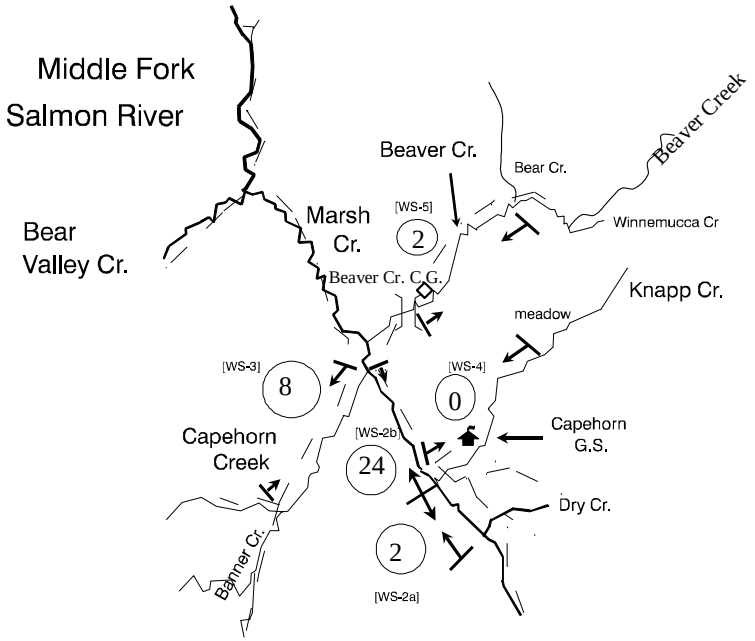
TIMING Early On Time Late

SURVEY DATE 8/16, 8/31/2000

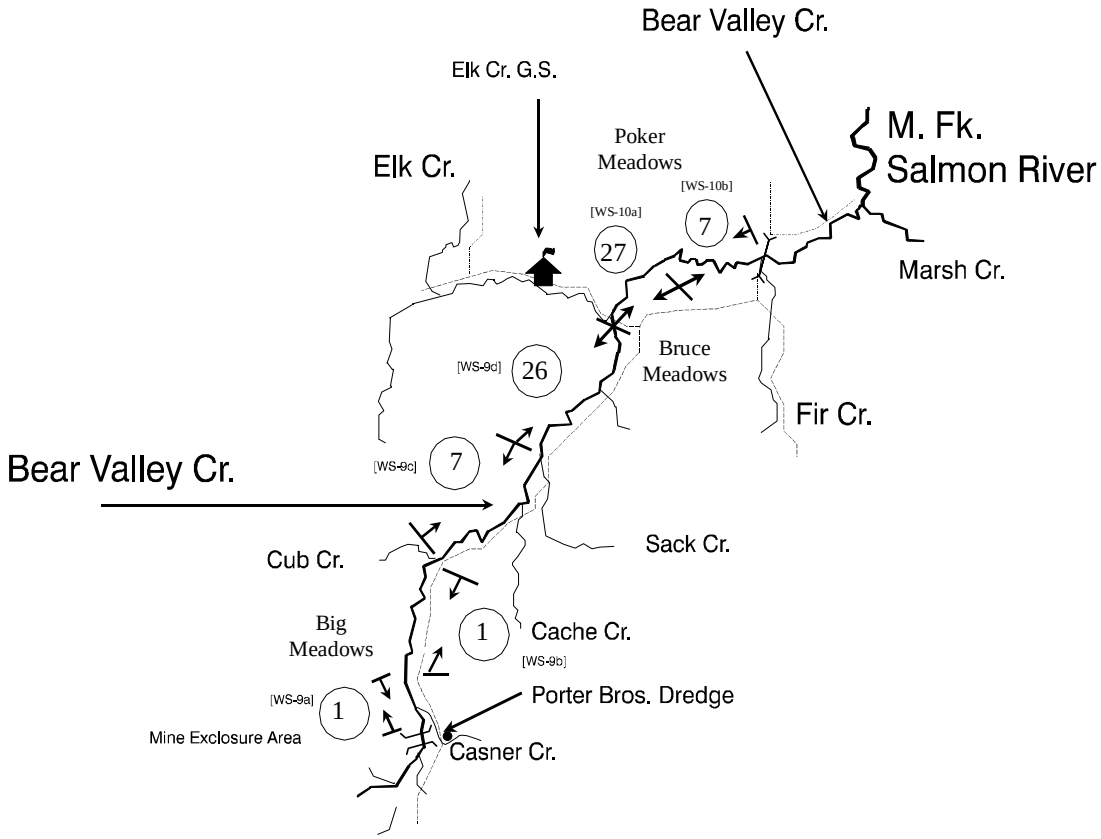
MAP SCALE 1.15 cm = 1 mile

OBSERVER Leth, Kiefer, Gadwa, Brimmer

REMARKS Ground



DRAINAGE	Middle Fork Salmon River	SURVEY DATE	8/28-30/2000
STREAM	Bear Valley Creek	MAP SCALE	0.90 cm = 1 mile
OBSERVATION CONDITIONS	Good	OBSERVER	Allen, et al.
TIMING Early On Time Late		REMARKS	Ground



DRAINAGE Middle Fork Salmon River

STREAM Elk Creek

OBSERVATION CONDITIONS Good

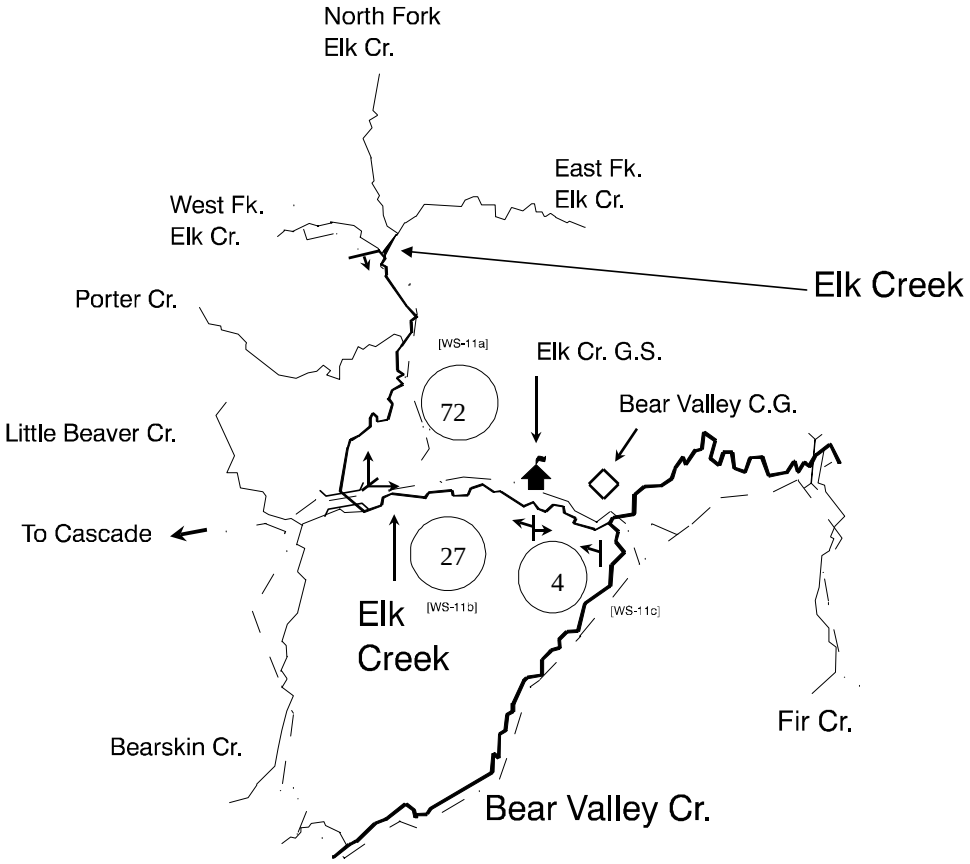
TIMING Early On Time Late

SURVEY DATE 8/29,30/2000

MAP SCALE 1.3 cm = 1 mile

OBSERVER Allen, et al.

REMARKS Ground



DRAINAGE Middle Fork Salmon River

STREAM Sulphur Creek

OBSERVATION CONDITIONS Good

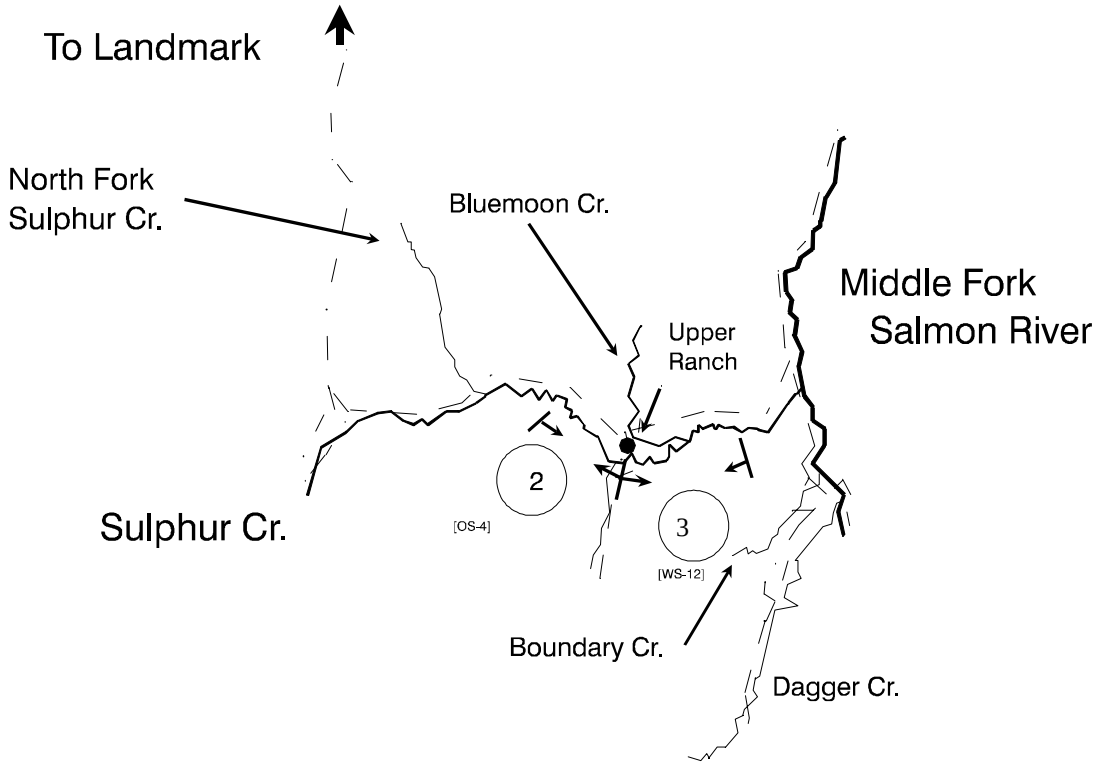
TIMING Early **On Time** Late

SURVEY DATE 8/29/2000

MAP SCALE 1.3 cm = 1 mile

OBSERVER Allen

REMARKS Ground



DRAINAGE Middle Fork Salmon River

STREAM Loon Creek

OBSERVATION CONDITIONS Good

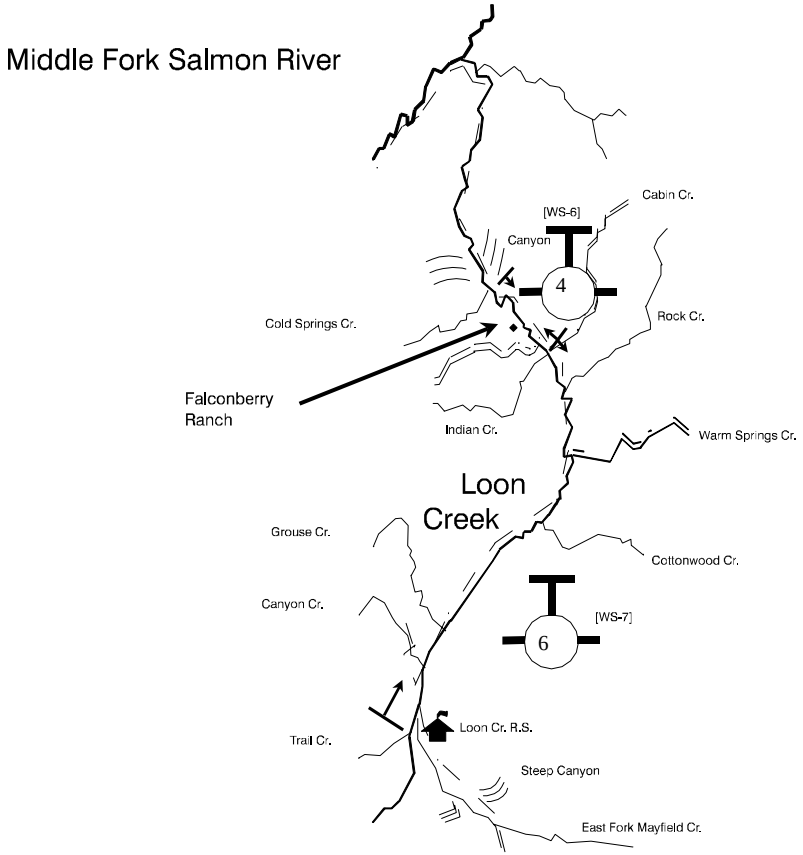
TIMING Early On Time Late

SURVEY DATE 08/31/2000

MAP SCALE 0.85 cm = 1 mile

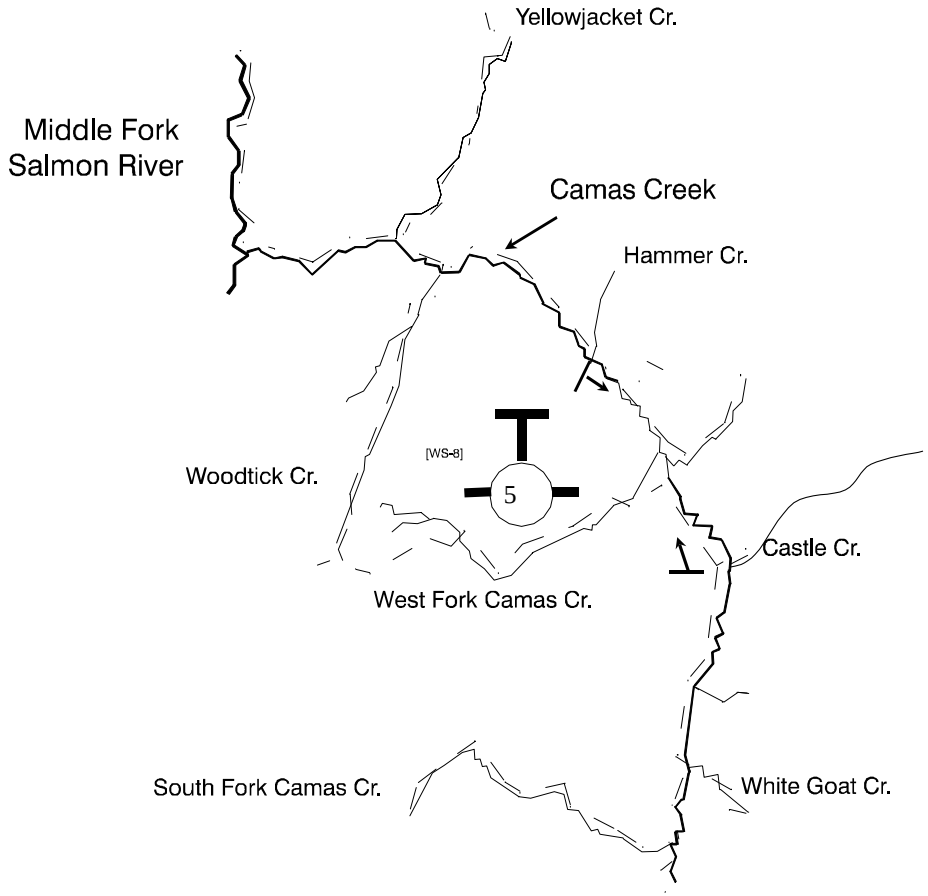
OBSERVER Curet, Schoby, Meyer

REMARKS Helicopter



DRAINAGE Middle Fork Salmon River
STREAM Camas Creek
OBSERVATION CONDITIONS Good
TIMING Early On Time Late

SURVEY DATE 9/1/2000
MAP SCALE 1.10 cm = 1 mile
OBSERVER Schoby, Sager, Armbruster
REMARKS Helicopter



DRAINAGE Middle Fork Salmon River

STREAM Big Creek

OBSERVATION CONDITIONS Good

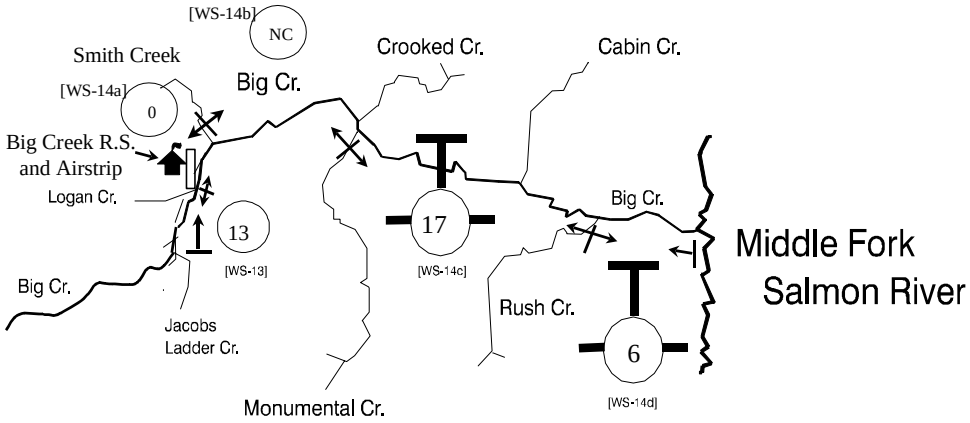
TIMING Early On Time Late

SURVEY DATE 8/24-9/1/2000

MAP SCALE 0.45 cm = 1 mile

OBSERVER Apperson, Nez Perce Tribe

REMARKS Ground, Helicopter

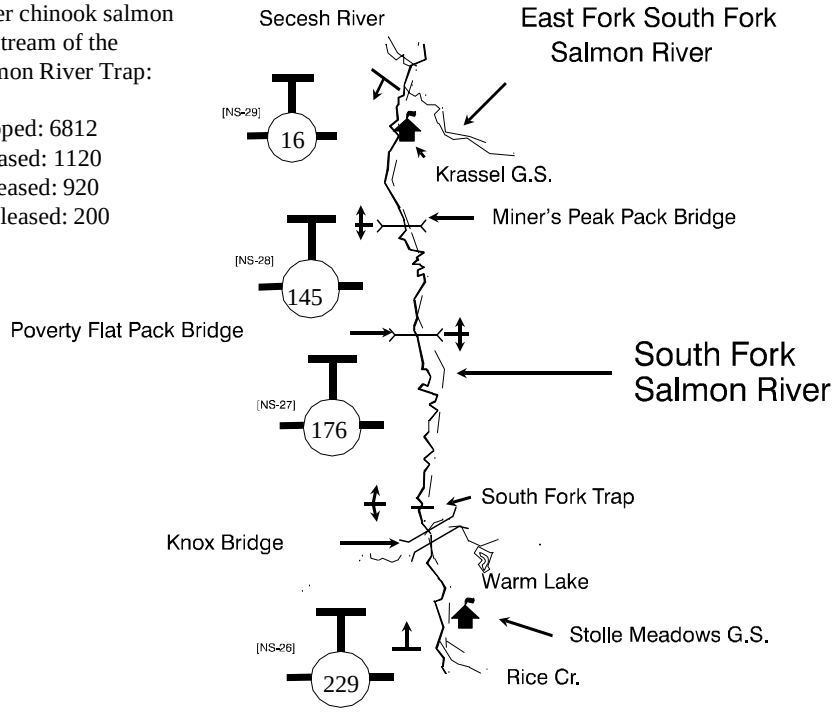


DRAINAGE South Fork Salmon River
STREAM South Fork Salmon River
OBSERVATION CONDITIONS Poor
TIMING Early On Time Late

SURVEY DATE 8/28, 9/8/2000
MAP SCALE 0.40 cm = 1 mile
OBSERVER Apperson
REMARKS Helicopter

Number of summer chinook salmon
Released upstream of the
South Fork Salmon River Trap:

Total Trapped: 6812
Total Released: 1120
Males Released: 920
Females Released: 200



South Fork Salmon River

Lake Creek - Secesh River

VATION CONDITIONS Poor

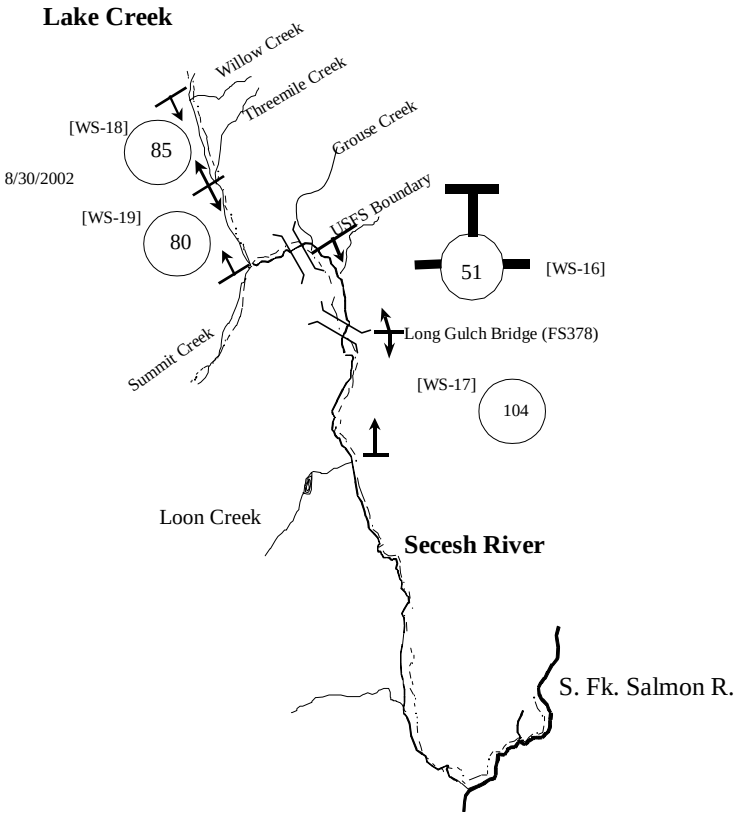
TIMING Early On Time Late

SURVEY DATE 8/30/00 , 8/28/00

MAP SCALE 0.65 cm = 1 mile

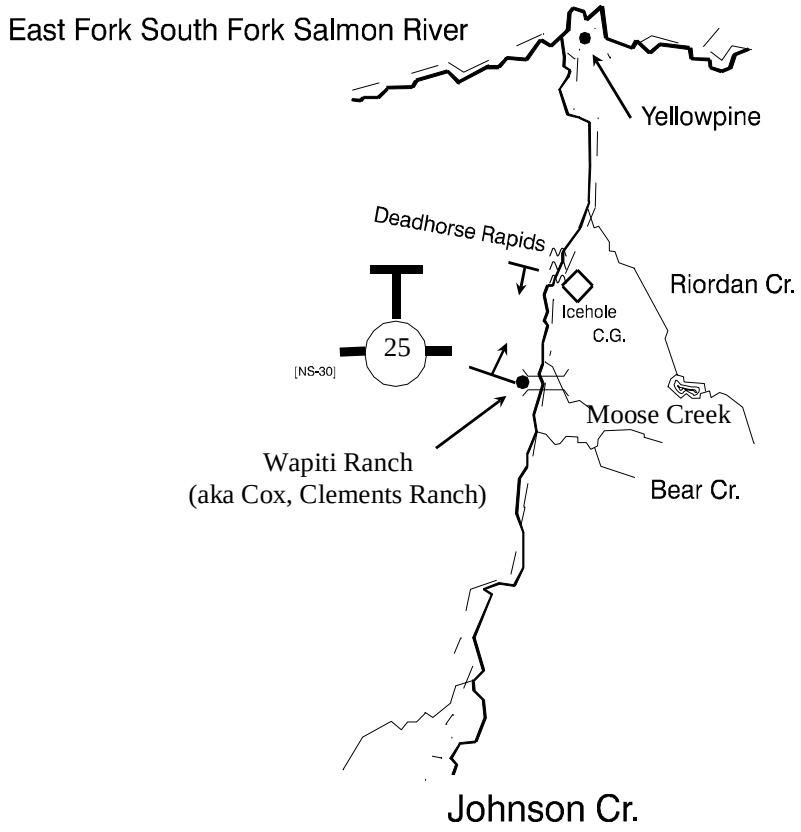
OBSERVER Apperson

REMARKS Ground - Helicopter



DRAINAGE South Fork Salmon River
STREAM Johnson Creek
OBSERVATION CONDITIONS Fair
TIMING Early On Time Late

SURVEY DATE 8/28/2000
MAP SCALE 0.95 cm = 1 mile
OBSERVER Apperson
REMARKS Helicopter



MAP-04

DRAINAGE Clearwater River

STREAM Crooked Fork & Brushy Fork

OBSERVATION CONDITIONS Excellent

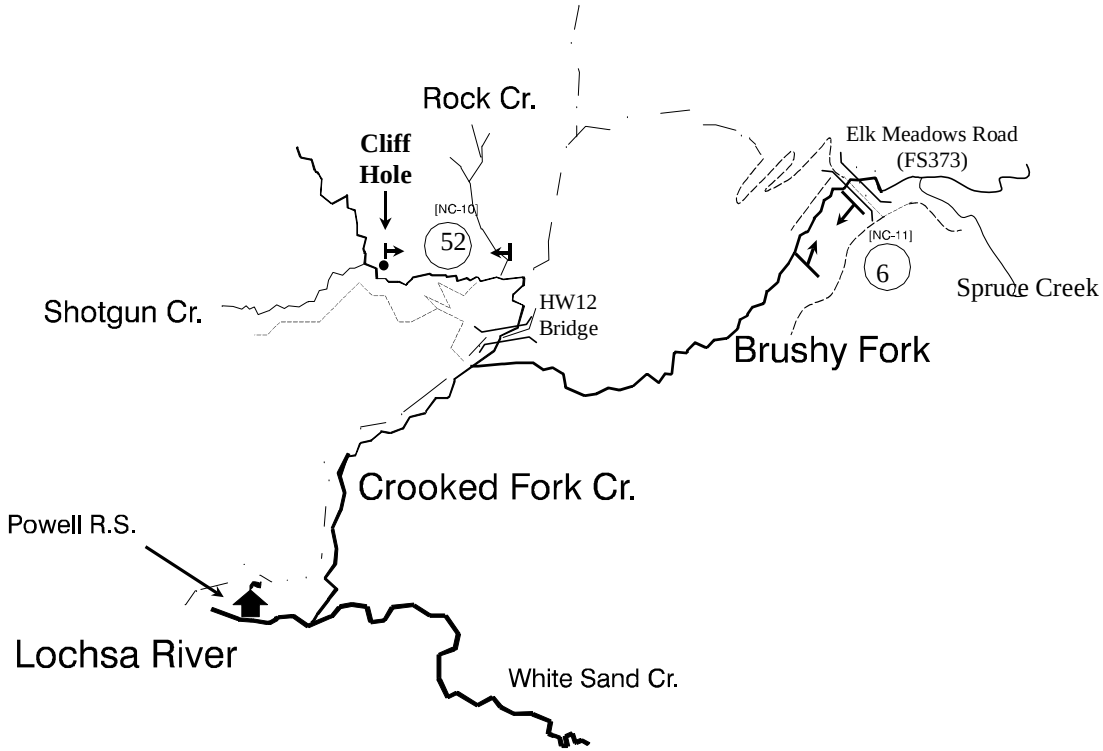
TIMING Early On Time Late

SURVEY DATE 9/2, 3/2000

MAP SCALE 0.95 cm = 1 mile

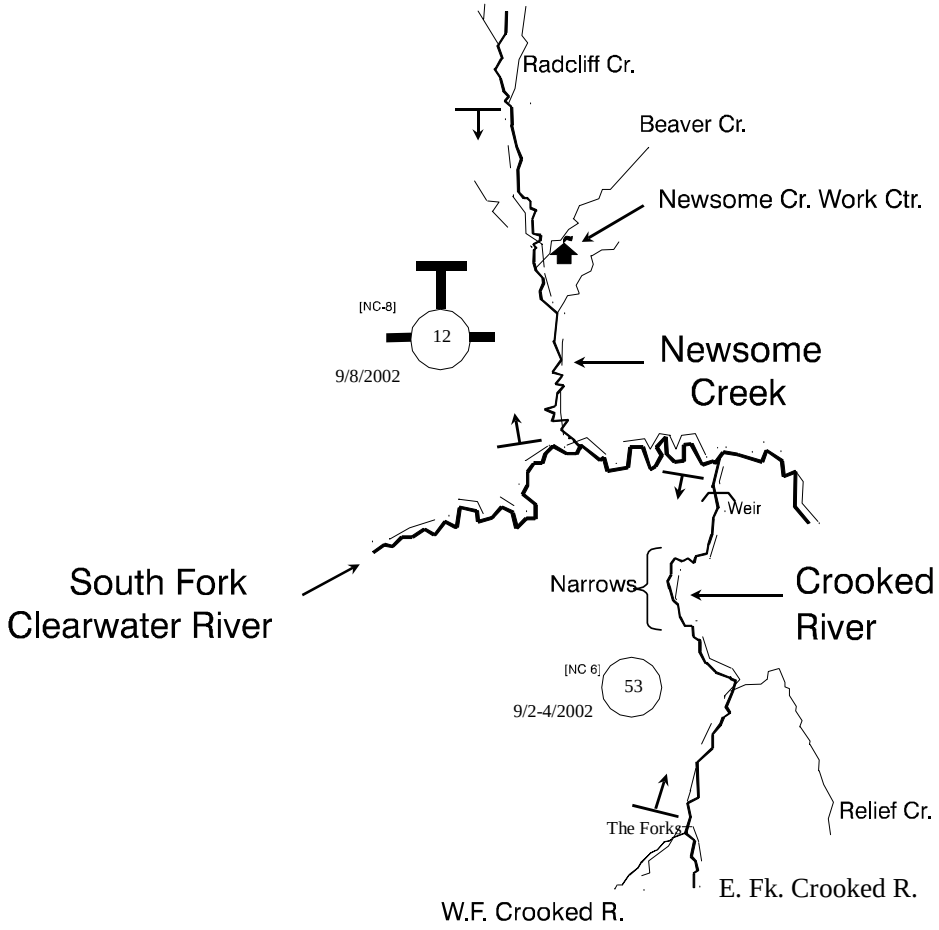
OBSERVER Leth

REMARKS Ground



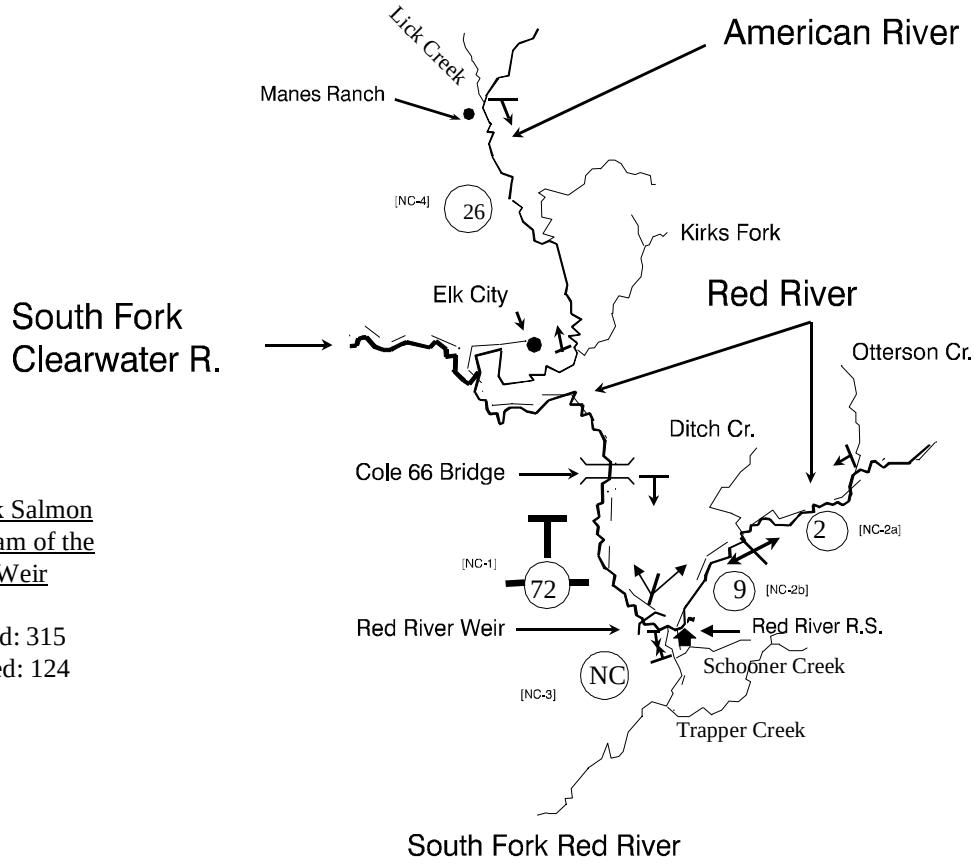
DRAINAGE Clearwater River
STREAM Crooked River & Newsome Creek
OBSERVATION CONDITIONS Poor
TIMING Early On Time Late

SURVEY DATE 9/2-4, 9/8/2000
MAP SCALE 0.85 cm = 1 mile
OBSERVER Brostrom
REMARKS Helicopter



DRAINAGE Clearwater River
STREAM Red R. and American River
OBSERVATION CONDITIONS Poor
TIMING Early On Time Late

SURVEY DATE 8/28, 9/8/2000
MAP SCALE 0.75 cm = 1 mile
OBSERVER Brostrom
REMARKS Helicopter - Ground



Spring Chinook Salmon
Released upstream of the
Red River Weir

Total Trapped: 315
Total Released: 124

DRAINAGE Clearwater River

STREAM Upper Selway River

OBSERVATION CONDITIONS Poor

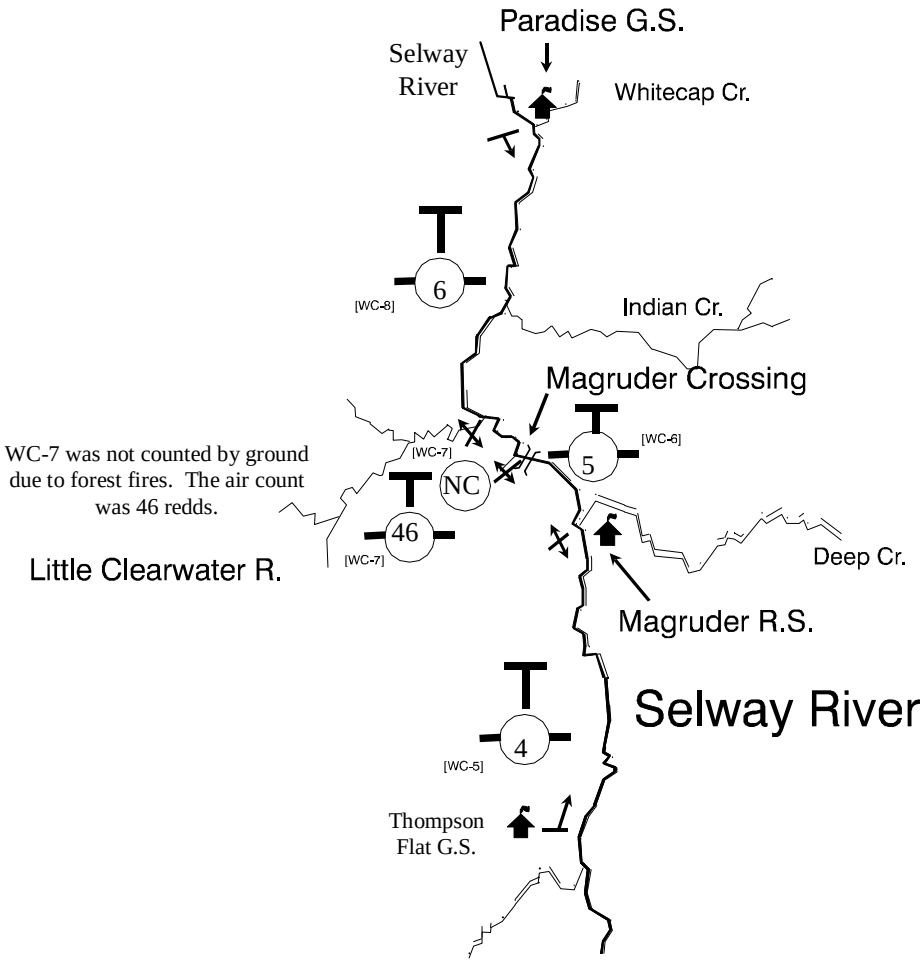
TIMING Early On Time Late

SURVEY DATE 9/9/2000

MAP SCALE 0.85 cm = 1 mile

OBSERVER Brostrom

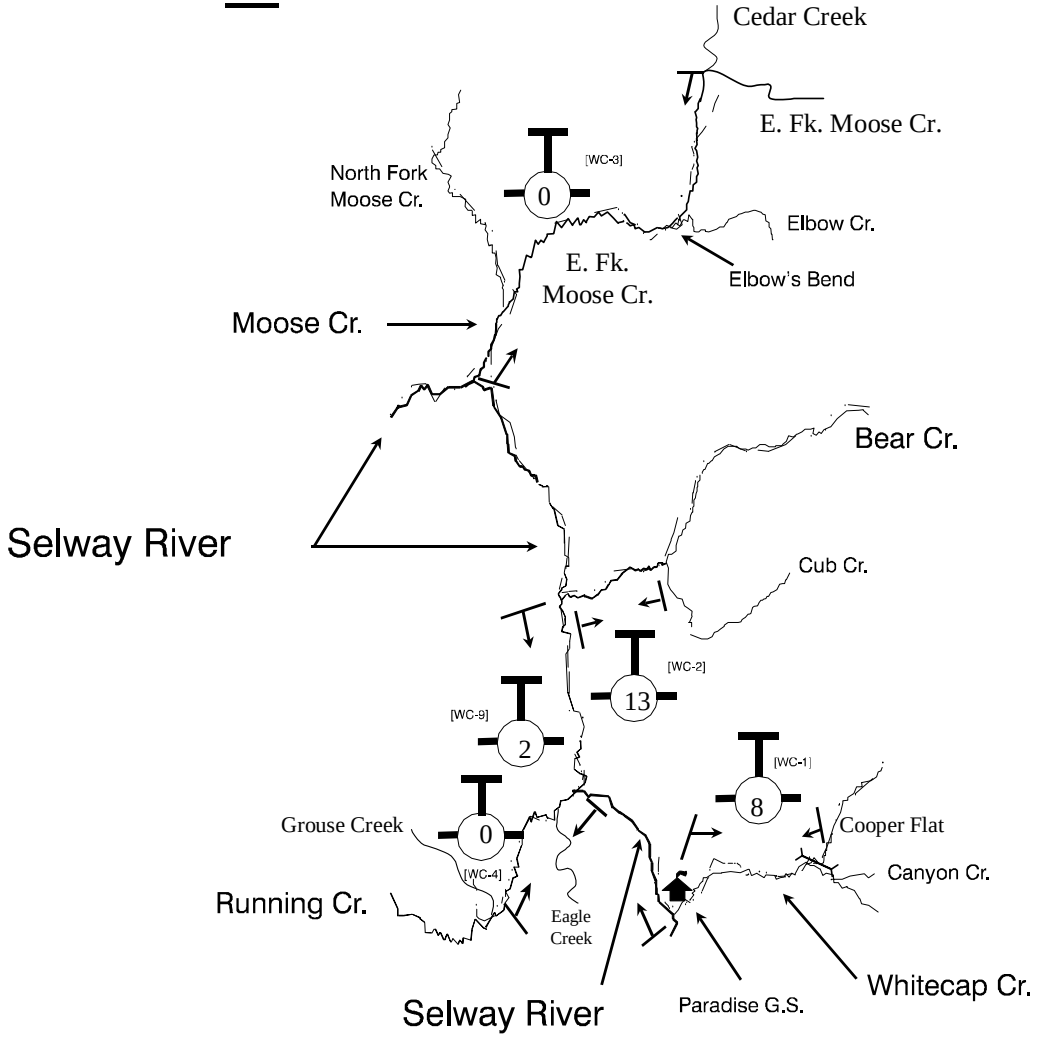
REMARKS Helicopter & Ground



WC-7 was not counted by ground due to forest fires. The air count was 46 redds.

DRAINAGE Clearwater River
STREAM Selway River & tributaries
OBSERVATION CONDITIONS Good
TIMING Early On Time Late

SURVEY DATE 9/9/2000
MAP SCALE 0.65 cm = 1 mile
OBSERVER Brostrom
REMARKS Helicopter



Submitted by:

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Approved by:

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Virgil K. Moore, Chief
Fisheries Bureau

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Sharon W. Kiefer
Anadromous Fish Manager